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RADIOHEAD'S SUBTERRANEAN JAZZ STRUCTURALISM:  
THE MUSIC OF LOUIS ARMSTRONG, ALICE COLTRANE, MILES DAVIS,  
AND CHARLES MINGUS IN TEN COMPOSITIONS BY RADIOHEAD

BY

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DISSERTATION

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## ABSTRACT

The objective of this dissertation is to define the undocumented jazz lineage of Radiohead's musical evolution that has been overlooked in the current academic discourse. Drawing on ten examples from Radiohead albums *OK Computer*, *Kid A*, *Amnesiac* and *The King of Limbs*, I hope to show their jazz structural modeling in three episodes of experimentation, advanced interactions, and synthesis.

Across these three phases in its evolution, Radiohead's method remains constant in specific mirroring techniques of melody, harmony, form, texture, and lyrics. Inside the group's structural process, Radiohead composed two-part counterpoint melodies to their jazz models, adopted harmony with modal jazz progressions, designed parallel macro structures, duplicated textures, and responded directly to the lyrics of their jazz models. A side-by-side comparison of Radiohead compositions and their jazz models point to a detailed design guided by Louis Armstrong, Miles Davis, Alice Coltrane, and Charles Mingus. Above this transition through modeling, critics and journalists responded positively, as their reputation changed from being a "Nirvana-lite" grunge band to "Re-Inventors of rock," as described by *Time Magazine* in 2000.

Starting in 1996, Radiohead confused the industry by modeling Miles Davis's *Bitches Brew* in their album *OK Computer*. After winning a Grammy award, their jazz inspired exodus continued deeper into jazz, and deeper into a new musical value system. This paper constructs a new profile of Radiohead's unidentified jazz emulations since 1996 by connecting comparative transcriptions, jazz references from interviews, and two new interviews conducted for this paper with Radiohead musicians from the albums *Kid A* (2000) and *Amnesiac* (2001). Without quoting jazz clichés or playing jazz fragments, Radiohead used a consistent practice of detailed imitation that I've coined as "jazz structuralism" to break out of their perceived limitations in the rock genre.

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## INTRODUCTION

When Radiohead took the stage on June 15<sup>th</sup>, 2000 at the Teatro Tivoli in Barcelona to launch their European tour for their album *Kid A*, few of the Spanish teenagers could have expected to hear their favorite rock band walk on to the music of jazz harpist Alice Coltrane. For the next six years, the stadium rock band famous for their riddles left many clues and fragments about their metamorphosis under the influence of jazz. In the recording studio, starting with their album *OK Computer* in 1996, Radiohead began to use a unique spectrum of jazz albums to escape their feeling of being closed in by the rock genre and industry. “We’re not interested in saving rock,” Thom Yorke said in 1997, “It should have been dead years ago.”<sup>1</sup> Their biggest creative change started with a redirection towards jazz starting with Miles Davis. Behind their acclaimed breakthrough into “post-rock,” Radiohead used what I refer to as “jazz structuralism” to break out of their frustrations with the limited range of expression they saw in rock. In the process, their texture, chord progressions, and musicality shifted with new intentions. In the recording studio, starting with their album *OK Computer* in 1996, Radiohead began to use a unique spectrum of jazz albums to escape their feeling of being closed in by the rock genre and industry. “We’re not interested in saving rock,” Thom Yorke said in 1997, “It should have been dead years ago.”<sup>2</sup> Their biggest creative change started with a redirection towards jazz starting with Miles Davis.

Radiohead is a band with a history of sharp creative corners and an uncompromising approach to business, inspired by Miles Davis since 1996. Turning away from Irish rockers U2,

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<sup>1</sup> Tom Sinclair, “Radiohead Trip,” *Entertainment Weekly*, August 24, 1997, <http://www.greenplastic.com/coldstorage/articles/ew3.html>.

<sup>2</sup> Sinclair, 1997.

Capitol Records downgraded Radiohead's sales forecast for *OK Computer* to 400,000 units. In 1997, *OK Computer* won a Grammy Award, sold approximately 7 million copies and was declared album of the decade. By 2000, Radiohead's deeper jazz structured album *Kid A* was released, becoming the #1 album on the US charts, without the promotion of a hit single or music video. In interviews, Radiohead band members began attributing their success to Miles Davis, Charles Mingus, and Alice Coltrane, all known for their long modal forms and experimental procedures. From 1996 to 2011, Radiohead's structures began to grow towards broad monolithic modal explorations, flying in the face of an industry increasingly focused on iTunes singles. In 2007, the rock band broke ties with their label EMI, defiantly giving away their album *In Rainbows* as a "pay what you want" download. Lead vocalist Thom Yorke reflected on their pay by donation model, "We made more money out of this record than out of all the other Radiohead albums put together."<sup>3</sup> Since 1998, Radiohead has influenced the young jazz community in business and composition.

### **The "Radiohead Effect" on Jazz**

My research began as an interest in the jazz community's performance of Radiohead's music, but this interest was followed by a bigger question: "Why did the jazz community become interested in Radiohead in 1998?" My answer to this question inspired this dissertation, demonstrating that Radiohead turned to jazz structuralism in 1996, two years before jazz turned to Radiohead. I believe jazz musicians embraced Radiohead on a cognitive level because, as this dissertation will demonstrate, Radiohead modeled their compositions after the music of Louis

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<sup>3</sup> David Byrne, "Interview with Thom Yorke," *Wired Magazine*, December, 2007, [http://archive.wired.com/entertainment/music/magazine/16-01/ff\\_yorke?currentPage=all](http://archive.wired.com/entertainment/music/magazine/16-01/ff_yorke?currentPage=all).

Armstrong, Alice Coltrane, John Coltrane, Miles Davis, Charles Mingus, and the Art Ensemble of Chicago.

When jazz pianist Brad Mehldau began performing Radiohead compositions in a series of concerts at the Village Vanguard in 1998, few if any jazz musicians knew that Radiohead had been modeling the songs of *OK Computer* after specific jazz compositions. Reid Anderson, bassist for The Bad Plus, a group that follows Mehldau, hears complex structures in their music, “One thing I look for in pop music is creativity in phrasing and structure, Radiohead’s music is so far ahead of everyone else...”<sup>4</sup> After seeing many of these performances at the Village Vanguard where Mehldau began experimenting with Radiohead through their compositions and techniques, drummer Dave King of The Bad Plus said “Brad was the one,” referring to their break with a new generation of young jazz musicians called the “Young Lions.” National Public Radio journalist Patrick Jarenwattananon’s article encapsulates the “Radiohead Effect” on jazz:

I’m not sure if Brad was the absolute first jazzman to have a go at Radiohead, but he was certainly the most influential... For a while in the mid-2000s, it seemed like everybody in jazz was recording their own “Everything In Its Right Place” or something. Oddly enough, Yorke/Greenwood/Selway et al. might just be the most-played jazz composers to have emerged in the last 20 years — even though they’re not really jazz composers.<sup>5</sup>

Following Mehldau’s lead, Dave King and The Bad Plus became a leading new voice in jazz returning to rock. Also influenced by Mehldau, Joshua Redman began to move away from the “Young Lions” tradition with a series of albums that embraced funk and rock with his Elastic Band.

Jazz musicians seeking to expand their audience had found an embassy in rock with Radiohead. Jazz musicians could reach foreign listeners, inside the safe walls of complex

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<sup>4</sup> Tad Hendrickson, “Radiohead: The New Standard Bearers?,” *JazzTimes*, August, 2004, 28.

<sup>5</sup> Patrick Jarenwattananon, “Yup, Jazz Musicians Still Love to Play Radiohead Songs,” *NPR Jazz*, February 25, 2011, accessed April 10, 2016, <http://www.npr.org/sections/ablogsupreme/2011/02/26/134056587/yup-jazz-musicians-still-love-to-play-radiohead-songs>.

Radiohead compositions. Describing Mehldau, Jazz musician Pat Metheny stated, “Rather than fight the culture and pretend that the changes aren’t happening, we try to find what the culture is saying so we can mine it for the diamonds buried in the mud.”<sup>6</sup> Jazz musicians could promote complex improvisation and arranging, while reestablishing a protective shield of youthful authenticity through Radiohead investigations.

In my opinion, the “Radiohead Effect” on jazz was one of the biggest new phenomena to affect young jazz players. In his 2007 album, pianist Robert Glasper went so far as to mash jazz pianist Herbie Hancock’s “Maiden Voyage” with Radiohead’s “Everything in its Right Place.” In jazz education, several university professors including Fred Sturm, Patty Darling, and James Miley arranged an album of Radiohead’s music for the Frankfurt Radio Big Band called *The Radiohead Jazz Project*. As recently as 2011 in *JazzTimes*, jazz saxophonist Joshua Redman mentioned Radiohead as one of his main influences.<sup>7</sup>

This dissertation is the first analysis of Radiohead’s unidentified jazz emulations. Starting in 1996, I will show that Radiohead emulated precise characteristics from specific jazz compositions by Louis Armstrong, Alice Coltrane, Miles Davis, and Charles Mingus, which increasingly began to affect their compositional style. I construct my analysis by connecting comparative transcriptions, jazz references from interviews, and information from two new interviews conducted for this paper with Radiohead musicians. My research illustrates that Radiohead mirrored ten of their compositions after ten specific jazz compositions.

My research suggests an evolution in three phases from experimentation with jazz structures to advanced interactions, and eventual synthesis of jazz techniques. Across these three phases in its evolution, Radiohead’s approach remains constant in mirroring melody, harmony,

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<sup>6</sup> Geoffrey Himes, “Pat Metheny and Brad Mehldau: Counterpoint,” *JazzTimes*, May, 2007, 52.

<sup>7</sup> Alexandra Heeney, “TO Jazz Festival: Interview with Joshua Redman,” *BlogUT*, June 27, 2010, accessed April 10, 2016, <http://www.blogut.ca/2010/06/27/to-jazz-festival-interview-with-joshua-redman/>.

form, texture, and lyrics. As a group, they designed parallel macro structures, composed two-part counterpoint melodies to their jazz models, expanded their harmony with modal jazz progressions, and responded directly to the lyrics of their models. In their practice of jazz structuralism, this dissertation shows how jazz provided the strongest reference point during their rise to critical and popular acclaim, suggesting a strong relationship between their expansion into jazz techniques, and their critical approval in the media.

Chapter one defines the early experimental phase on the album *OK Computer* in 1996. In this period, Radiohead imitates the jazz structures of Miles Davis and Louis Armstrong. Radiohead begins using modal vamps, ii7 V7 progressions, composing in reference to their jazz melodies, and responding to the lyrics of Armstrong's "What a Wonderful World."

Chapter two describes a period of advanced interactions with their jazz models between 1999 and 2001, when Radiohead created more complex reflections and reactions to their jazz models. In this period, Alice Coltrane, Charles Mingus, Louis Armstrong, and Miles Davis are used as specific references on the albums *Kid A* and *Amnesiac*. Radiohead's "National Anthem" is a long form reflection of Mingus's "Wednesday Night Prayer Meeting." "Pyramid Song" uses Alice Coltrane's linear melodic expansion and orchestration. Radiohead's "Kinetic" is written in a synchronized call and response with Davis's "Miles Runs the Voodoo Down."

In chapter three, I explore the third phase of jazz synthesis, when Radiohead composed using internalized jazz techniques that were still responsive to jazz, but less dependent on specific jazz models with the albums *Hail to the Thief* in 2003 to *The King of Limbs* in 2011. Their composition "We Suck Young Blood" is derivative from Mingus's "Freedom," but evolves away from the composition as a unique variation. In the final composition "Bloom," Radiohead

question time, meter, and tempo like a jazz ensemble. Their evolution towards jazz is remarkable given their roots as a garage band in 1985.

### **Biographical background of Radiohead**

Radiohead, originally named On a Friday, started as a quintet of high school boys from Oxford, England in 1985. Thom Yorke (vocals), Ed O'Brien (guitar), Phil Selway (drums), and two brothers Jonny Greenwood (guitar) and Colin Greenwood (bass) practiced after school with support from their school music teacher. Originally they had two saxophonists in the group as well. They were not trained extensively as musicians; Jonny Greenwood is the one exception, bringing classical cello experience to the group. Reflecting on their chemistry, Ed O'Brien recalled, "I don't think we're individually amazing musicians, but what we do collectively is pretty good."<sup>8</sup> Seeing the young band at a pub in Oxford, journalist Ian Gittins noticed their ambition over ability in 1992: "They're all elbows and angst, are Radiohead. They want to gouge their mark so deep into us yet don't truly know How To Do It. So they wrestle their nervy rock on stage and timidly grow before our eyes. It's a heartening spectacle."<sup>9</sup>

As their lead vocalist, Thom Yorke was also the band's creative force, leading Radiohead with art school training, exclusionary childhood experiences, and a Holden Caulfield perspective on society. Andrew Smith from *The Guardian*, described Yorke's childhood:

Thom Yorke was born in October 1968, with the muscles in his left eye paralyzed, a condition which demanded no less than five operations before the age of six... Needless to say, the singer was teased mercilessly when young and could be forgiven for being in a funk with the world, which he learnt from an early age to vent through his music. He was a fighter at school and there is often an undercurrent of rage and frustration in even his most reflective lyrics.<sup>10</sup>

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<sup>8</sup> Tony Wadsworth, "The Making of OK Computer," *The Guardian*, December 20, 1997.

<sup>9</sup> Ian Gittins, "Radiohead: Powerhaus, London," *Melody Maker*, June 13, 1992.

<sup>10</sup> Andrew Smith, "Sound and Fury," *The Guardian*, October 1, 2000, accessed April 10, 2016, <http://www.theguardian.com/theobserver/2000/oct/01/life1.lifemagazine>.

Radiohead often reject the media's assertion that they are a middle class, art rock, or intellectual band from Oxford.

We live in Oxford, and in Oxford we're lower class. The place is full of the most obnoxious, self-indulgent, self-righteous oiks on the planet, and for us to be called middle class... well, no, actually. Be around on May Day when they all reel out of the pubs at five in the morning puking up and going "haw haw haw" and trying to hassle your girlfriend...<sup>11</sup>

Going away to different colleges, the band surprisingly stuck together, finding time to keep rehearsing in the summers. Their early albums, an EP called *Drill* in 1992 and their first full album *Pablo Honey* released in 1992 had little initial success. "Creep," their first single from *Pablo Honey*, was met with indifference in the UK market. BBC 1 banned "Creep" for being "too depressing," and New Music Express dismissed Radiohead as a UK attempt at "Nirvana-lite."<sup>12</sup> By the end of 1992, Radiohead seemed destined for a short and undistinguished shelf life as a slacker grunge band. One DJ and two cartoon characters bought Radiohead another chance.

Overseas, EMI had success promoting "Creep" to one DJ in Israel at the end of 1992. DJ Yoaz Kutner played the single in high rotation until it caught on in Tel Aviv, spreading to other stations, most notably KITS in San Francisco. In 1993 it was featured on MTV's *Beavis and Butthead*, the cartoon teens taunted but endorsed Radiohead. "Creep" became a global hit.

Transcript of MTV's Cartoon Beavis and Butthead listening to "Creep," (1993):

**Beavis:** Don't worry Butthead, it gets cool in a minute.

**Butthead:** It better start rocking or I'll really give him something to cry about.

**Beavis:** Shut up Butthead, it's cool. Check it out, check it out! Here it comes.

[Song gets louder, lyrics: I'm a creep, I'm a weirdo, I don't belong here.]

**Beavis:** Yes! Yes!

**Butthead:** This is pretty cool.

**Beavis:** Yeah yeah yeah yeah

**Butthead:** Uh? Uh?

[Soft dynamic returns]

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<sup>11</sup> Ibid.

<sup>12</sup> Ibid.



**Beavis:** What... what's going on...? How come they don't just, like, play that cool part through the whole song?

**Butthead:** Well, Beavis, if they didn't have, like, a part of the song that sucked, then, it's like, the other part wouldn't be as cool.

**Beavis:** Really? You're pretty smart Butthead. Hey, here it comes again. Yes! Yes! Raaawk!

For years, “the Creep band” seemed unable to escape the shadow of their limited success. “Creep” loomed over their undistinguished albums *Pablo Honey* (1993), *My Iron Lung* (1994), and to a lesser extent, *The Bends* (1995). Rob Sheffield from *Rolling Stone* described their change in 1996, “Radiohead was claiming the high ground, abandoned by Nirvana... fans around the world loved them for trying too hard, while nobody else was even bothering.”<sup>13</sup>

In 1996 Radiohead turned to the techniques of Miles Davis. *Request Magazine* noticed a new dissonant harmonic attitude in Yorke at the end of an interview in September 1997:

Fresh customers trickle into the diner, seeing and being seen. As the conversation dwindles, the balmy harmonies of the mamas and papas' “California Dream” begin to seep out of the sound system. Greenwood slips off to join Selway, O'Brien, and his brother, who are headed down the street. Yorke pauses for a moment, then wanders off after them, humming his own quiet, slightly dissonant fifth-part harmony.<sup>14</sup>

Their album *OK Computer* won a Grammy that year and became the tenth most praised album of all time by music critics.<sup>15</sup> Adrian Gover from *Circus* described the atmosphere, “Just about the entire music industry is talking about nothing but Radiohead.”<sup>16</sup> Their rebirth in the press is surprising given that they still hadn't had a hit single since “Creep” in 1992.

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<sup>13</sup> Rob Sheffield, “Radiohead,” in *The New Rolling Stone Album Guide*, eds. Bathan Brackett and Christian Hoard (New York: Fireside, 2004), 671.

<sup>14</sup> “Subterranean Aliens,” *Request Magazine*, September, 1997, accessed April 10, 2016, <http://www.greenplastic.com/coldstorage/articles/request.html>.

<sup>15</sup> Data based on results from AcclaimedMusic.net, which is a statistical system aggregates 1000 music critics responses to measure critical reception, and music reviews dating back to 1890. Henrik Franzon, “Radiohead,” AcclaimedMusic.net, accessed April 10, 2016, <http://www.acclaimedmusic.net>.

<sup>16</sup> Adrian Gover, “Radiohead: Getting More Respect,” *Circus Magazine*, August, 1997, <http://citizeninsane.eu/s1997-08Circus.htm>.

## Literature Review

In my review of current writing on Radiohead, three general clusters of research have become clear: academic lyrical analysis, popular culture aggregation, and classical theory parallel constructs.

In the first case, much effort has been taken to analyze their lyrics as literature, while Radiohead singer Thom Yorke continually rejects autobiographical interpretations of his writing. Most of their lyrics are designed to be visually evocative, poetic, and referential without literal interpretations, as in this verse from “How to Disappear Completely”:

Strobe lights and blown speakers  
Fireworks and hurricanes  
I’m not here  
This isn’t happening

The band purposefully designs riddles. Yorke’s lyrics are often constructed in a Dadaist guise, where his paper text is cut up into phrases and then reassembled by him at random, a fact that is often unnoticed or understated by many close readings of his lyrics in humanities articles. Additionally, few academic discussions about the relationships between Radiohead’s text and their musical settings have been published. *The Music and Art of Radiohead* (2007), a collection by Joseph Tate, is the most substantial collection of academic articles on Radiohead, but does not include music theory or comprehensive musical structure analysis. I would argue that Radiohead’s lyrics have generally been analyzed in a vacuum excluding contextual jazz theory.

In the second cluster that I would characterize as commercial popular music writings, a few authors have written unofficial biographies aimed at readers without a background in music. Many of these books have proved useful for interviews and reflections from the members of the band, but do not go into close analytical readings of their music construction techniques.

In the third cluster of research, at the other end of the academic spectrum, is a collective of music theory research that has superimposed classical structures onto Radiohead's music for various reflective purposes on music theory, often using Radiohead's music as exemplary models for non-traditional progressions in the Romantic tradition, to suggestively support the Western common practice system of undergraduate theory courses.

All of these three clusters have avoided jazz, which is mentioned often by Radiohead. Many Western theory references are attributed to Jonny Greenwood's interest in Polish composer Krzysztof Penderecki and French composer Olivier Messiaen, while sidestepping Radiohead's more influential jazz sources composed by African-American men and women. David Haglund from *Slate* accurately captures the wide spectrum of American and European influences, stating, "At the same time, Jonny Greenwood was studying viola, Krzysztof Penderecki, and Wes Montgomery."<sup>17</sup> Radiohead often uses Penderecki's atonal clusters, but they are governed by the under-acknowledged tonal/atonal collage techniques of jazz composer, Charles Mingus. Written for *The Black Saint and the Sinner Lady*, Mingus's liner notes from 1963 still resonate in the void of jazz representation in the current Radiohead discourse: "Yet this same kind of critic ten years later, when this extended form you used in a few tunes, or what is known in other music as pedal point, ten or more years later has too long been a fad by others who too may never have heard Jelly Roll Morton, and maybe not even this composer."<sup>18</sup>

Among the music theory profiles overlooked including Miles Davis, Charles Mingus, and Louis Armstrong, Alice Coltrane's contributions to Radiohead deserves the greatest reparation by academics and journalists that have over-credited European composers as Radiohead's influences. In discussions of acknowledged jazz influences, magazines *Rolling Stone*, *Slate*, and

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<sup>17</sup> David Haglund, "Listen to Two Unreleased Radiohead Songs from 1986," *Slate*, November 22, 2011, accessed April 10, 2016, [http://www.slate.com/blogs/browbeat/2011/11/22/radiohead\\_demo\\_from\\_1986\\_listen.html](http://www.slate.com/blogs/browbeat/2011/11/22/radiohead_demo_from_1986_listen.html).

<sup>18</sup> Liner notes to Charles Mingus, *The Black Saint & The Sinner Lady*, Impulse! A-35, 1963, CD.

*Spin* have often been the most straightforward in exposing Radiohead's jazz roots. YouTube's library of hundreds of Radiohead interviews has been my largest source of clues from which this theory of jazz structuralism was developed. In all of the materials reviewed, there were many fragments, but never a complete picture of this jazz structural method.

### **Project Explanation and Goals**

My literature review suggests a vast middle canvas of jazz influence, often glossed over by the band, that has not been demarcated by scholars. Drawing on examples from Radiohead albums *OK Computer*, *Kid A*, *Amnesiac* and *The King of Limbs*, I hope to show their continuous jazz modeling in three episodes of experimentation, advanced interactions, and synthesis, each separated by a year of touring by the band. Below is a table of derivative elements in Radiohead's music appropriated from their jazz models that this paper will document:

**Table 1 – Jazz structuralist blueprint of musical elements in the music of Radiohead**

<b>Melodic Mirroring</b>	Radiohead composes in imitation and/or direct counterpoint to the jazz models they emulated
<b>Intertextual Lyrics</b>	In all three phases, Thom Yorke’s lyrics are in conversation with their jazz models, responding to the text of their jazz references
<b>Harmonic Reduction</b>	In all three phases, Radiohead absorbs a variety of jazz progressions and creates a reduction from their models
<b>Coltrane Modal Tonality and Centricity</b>	Inspired by John and Alice Coltrane, the ensemble begins composing with a vast sense of tonic that supersedes one-measure chord progressions, creating spiritual or transcendent sense of ritual
<b>Fusion Machine Music</b>	Radiohead turns to the electronics of Miles Davis for inspiration to move beyond their perceived limitations of rock vocals and ensemble texture using electronics and editing pioneered by Teo Macero, an engineer for Miles Davis and Charles Mingus. Using noise, robotic sounds, and grooves inspired by Miles Davis, Radiohead attempts to recreate the long form vamp to overwhelm the formal sense of control and time
<b>Textural Replication</b>	Moving away from standard rock textures, Radiohead uses various jazz textures including Dixieland, free jazz from Mingus, and fusion from Miles Davis
<b>Metric Disruption</b>	Throughout these three periods, Radiohead experiments with tempo, meter, and clave beginning in 1996 with their experiment inspired by Miles Davis’s “Spanish Key”

Rock journalists, academics, baristas, jazz musicians, and string quartets have fallen over themselves to praise Radiohead, but only since their third album *OK Computer* in 1996. Before their concentration on jazz, Radiohead’s three albums *Pablo Honey*, *My Iron Lung*, and *The Bends* showed few signs of their critical rebirth that happened in 1996. In interviews from 1996 to the present, Yorke et. al began leaving a trail of jazz breadcrumbs in many different interviews, starting with this reference in 1996: “Jonny’s got me listening to jazz now... the bastard.” By 1997, *Spin* and *Q* magazines quickly hailed *OK Computer* as the album of the year, and the decade; journalists pushed it towards British listeners who quickly championed it as the *Q* Reader’s Poll “Album of the Decade.”

I hope to show that Radiohead’s phrasing, chord progressions, melodies, and texture changed in 1996, as they moved away from their grunge roots of the early 1990’s. In each of the three phases, their relationship with jazz structures evolves into more complex behaviors.

### **Delimitation**

This project attempts to focus a narrow light on Radiohead’s music in a close reading of their jazz and African Diasporic influences, which excludes many of their other acknowledged musical influences such as Beach Boys composer Brian Wilson, Can, Joy Division, The Talking Heads, Aphex Twin, and many artists from Warp records. Radiohead has never defined their specific recording and modeling techniques. This dissertation is limited to their emulative jazz albums.

I am comparing a close reading of Radiohead’s music with transcriptions, and interviews to confirm specific details in exact alignment with their jazz models.

### **Background of Jazz Structuralism**

“Jazz structuralism,” as I’ve labeled their process, merits a definition, given its atypical nature. Structuralism before jazz exists as a theory of organization used since the 12<sup>th</sup> century, working in competition with organizing principles of “patterns,” “Gestalt, and “formalism.” Pattern searching finds *recurrent* events in an undefined space. Gestalt looks at the *totality* of an interactive system. Formalism suggests, for example, that the human body is *contained* by its outer structure, or skin. But structuralism seems the most appropriate application because it suggests that the human body is *held up or built from* the structure of its skeleton.<sup>19</sup> In “jazz

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<sup>19</sup> Barbara Cassin, et al., *Dictionary of Untranslatables: A Philosophical Lexicon* (Princeton: Princeton University Press, 2014), 1066.

structuralism,” a term I coined, I hope to demonstrate that they grow out from jazz inspirations, out of restraining verse/chorus—out of rock. In their music, Radiohead’s jazz structures are sometimes microscopic spores of influence, as in “Bloom’s” Latin jazz bass line, which builds a system of complex rhythm, or macro blocks from Charles Mingus in his piece “National Anthem.”

In a 1997 interview with *Mojo*, Thom Yorke described his new philosophy for the album *OK Computer*, which I interpret as a structural perspective: “It’s like taking Polaroids of things happening at high speed in front of you and doing an impression of it...”<sup>20</sup> Structural modeling in music is not unique to Radiohead, but their invocation of jazz construction directives while entirely excluding jazz vocabulary, is a unique species of modern creativity. It is comparatively difficult to imagine Beethoven’s return to the Baroque counterpoint in his *Grosse Fugue*, without Baroque language. This is what makes Radiohead’s transformation unprecedented—they copy jazz without playing jazz.

Radiohead’s practice as rock musicians using jazz is unique in avoiding jazz licks, possibly because of the overwhelming historical baggage of jazz language, or the damaging clichéd associations they can invite towards jazz or progressive rock labeling.<sup>21</sup> Radiohead works cautiously with musical genres other than rock, much like composer Leonard Meyer’s description of “style-system families”—or groups of related styles. For example, Meyer notes that Bach and Beethoven represent different styles within a single style system or style family, whereas Mozart and Machaut belong to different style systems.<sup>22</sup> Because Alice Coltrane and Radiohead come from a single style family, Coltrane’s operations, or melodic string

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<sup>20</sup> Nick Kent, “Press your space face close to mine, love,” interview by Jim Irvin, *Mojo*, July 1997, 100-102.

<sup>21</sup> John Zorn’s *Naked City* comes to mind as an overbearing coup d’état of extemporaneous jazz clichés in collage, sustaining negative “play whatever” stereotypes about jazz.

<sup>22</sup> Leonard Meyer, *Emotion and Meaning in Music* (Chicago: University of Chicago Press, 1956), 64.

counterpoint, can be easily exchanged or grafted across genres. In contrast, operations from Krzysztof Penderecki come from a different style system. His twelve-tone clouds are limited to use in a collage. The development procedure is stripped away.

The band Radiohead creates their music through sound and contrast, using the rules of theory by ear. Overall, I believe their jazz inspired compositions grow outward from their reference skeletons instead of into the form they model, in the same way that John Coltrane's improvisations often grow over the bar line, and out from the blues. In an interview with Radiohead guitarist Jonny Greenwood, journalist Martin Aston described this period broadly, as working from a "techno-jazz blueprint."<sup>23</sup> My research suggests that this "techno-jazz blueprint" is incredibly specific. In 2001, Jonny Greenwood alludes to their structural modeling:

What we take from these records are things that other people may overlook, maybe things they don't feel that passionate about, like the chaos in those records which is fantastic... an amazing thing, and with Charles Mingus it's utter chaos all the same, the things happening in their music and the way they happen.<sup>24</sup>

My research shows that Radiohead's structural modeling of other artists, copying "the way things happen," begins much earlier than their turn to jazz models. Inside "Creep" (1992), the characteristics of their modeling "The Air that I Breathe" (1974) from rock band The Hollies reveal an early practice that returns in their jazz mirrors which begin in 1996.

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<sup>23</sup> Martin Aston, "2+2=5," *Mojo Magazine*, August, 2006, 78-80.

<sup>24</sup> David Broc, "Remembering the Future – Interview with Jonny Greenwood," *FollowMeAround.com*, originally printed in *Monosonoro*, June, 2001, accessed April 10, 2016, <http://www.followmearound.com/presscuttings.php?year=2001&cutting=129>.



## Early Structuralism in “Creep”

In Radiohead’s first hit song, the four chords of “Creep” (1992) are modeled after the “The Air that I Breathe,” by The Hollies, written in 1974.

**Example 1** – Radiohead’s structural use of the chord progression from “The Air That I Breathe”

“THE AIR THAT I BREATHE” VERSE CHORD PROGRESSION

Musical notation for the verse chord progression of "The Air That I Breathe". It consists of two staves in G major (one sharp). The top staff contains four measures with chords B $\Delta$ , E $\flat$  $\Delta$ , and E $\flat$ 7. The bottom staff contains four measures with chords E $\Delta$ , E $-$ , and B $\Delta$ . The notes in the staves are represented by diagonal slashes.

“CREEP” CHORD PROGRESSION TRANSPOSED FROM G TO B

Musical notation for the chord progression of "Creep" transposed from G major to B major (two sharps). It consists of two staves. The top staff contains four measures with chords B $\Delta$  and E $\flat$  $\Delta$ . The bottom staff contains four measures with chords E $\Delta$  and E $-$ . The notes in the staves are represented by diagonal slashes.

As they will with their jazz models included in this dissertation, Radiohead stretches and distorts their musical influences. In the example above, the E $\flat$ 7 is deleted from the structure, but will be implied by the melody of “Creep.” The E major and E minor chords are stretched from one measure to two. Example 2 shows the drum and bass from “The Air That I Breathe.” The rhythm section parts for “Creep” are identical to “The Air That I Breathe,” except the bass, which stays on the root throughout each chord, deleting the dominant motion.

**Example 2** – Bass and drum pattern from “Air” modeled for “Creep”

E. BASS

DRUM SET

In Example 3 below, Verse 2 from “The Air That I Breathe” at 1:20 becomes the Interlude for “Creep,” at 2:28.

**Example 3** – Verse 2 (1:20) from “Air” used as an Interlude for “Creep” (2:28)

“AIR” VERSE 2

B $\Delta$

E $\flat$  $\Delta$

E $\flat$ 7 IMPLIED

The closing phrase of quarter notes below from “Air” is also elongated into half notes to match the stretched chord progression. In Example 4 below, measure 6 of “Creep” is an internal variation on measure 2 from “Air.”

**Example 4** – Ending of verse from “Air” elongated in “Creep” (2:43)

E $\Delta$  (ADDED MEASURE)

E $^-$  (ADDED MEASURE)

“CREEP” INTERLUDE TRANSPOSED TO KEY OF B

B $\Delta$

E $\flat$  $\Delta$

E $\Delta$

VARIATION ON M.2 ABOVE

E $^-$

In one of the most interesting aspects of this research, Radiohead begins a practice of structural melodic counterpoint that will continue with their jazz models. The transposed melodies of Radiohead and The Hollies form a consistent and complimentary two-part counterpoint to each other in Example 5 below.

**Example 5** – Structural melodic counterpoint between verses from “Air” and “Creep”

The image displays two systems of musical notation. The first system shows the melodic lines for "CREEP" VERSE 2 (top staff) and "AIR" VERSE 2 (bottom staff). The "CREEP" melody starts with a quarter rest, followed by eighth and quarter notes. The "AIR" melody starts with a whole rest, followed by a half note and eighth notes. Chord symbols B $\Delta$ , E $\flat$  $\Delta$ , and E $\flat$ 7 IMPLIED are placed below the "AIR" staff. The second system, starting at measure 6, shows the continuation of both melodies. The "AIR" staff includes chord symbols E $\Delta$  (ADDED MEASURE) and E $^-$  (ADDED MEASURE) below the notes.

Furthermore, Radiohead begins a reflective lyrical counterpoint to The Hollies’ lyrics that will continue throughout their jazz examples. In reference to the lyrics from “The Air That I Breathe”:

Peace came upon me and it leaves me weak.  
 Sleep, silent angel go to sleep.  
 Sometimes all I need is the air that I breathe.

“Creep” by Radiohead responds to the angel mentioned by The Hollies in their lyrics below:

When you were here before,  
 I couldn't look you in the eye.  
 You're just like an angel.  
 Your skin makes me cry.  
 You float like a feather in a beautiful world.

Radiohead's techniques in designing "Creep" are the key patterns that this dissertation will explore during their jazz migration. Songwriter Albert Hammond and his frequent collaborator Michael Hazelwood from The Hollies now split credit and royalties with Radiohead for "Creep," after a quiet legal settlement. Moving forward, Radiohead continued to quote, but turned to more advanced structural methods.

In 1998, Jonny Greenwood shot back at the accusatory press like Parker playing Stravinsky, or Stravinsky writing jazz: "We're happy to steal anything from anywhere really."<sup>25</sup> In his dissertation at The University of Illinois, Michael Hicks defines many possible options in modeling and quotation, "Quotation in music has many forms: allusion, hints of older structures, suggestions of archaic styles, reworking, or revision... The further we distort an original or misquote it, the less likely we are to consider it a true quotation."<sup>26</sup> Radiohead returned to modeling, but switched to jazz—as structural quotation of jazz does not need lawyers.

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<sup>25</sup> Jonny Greenwood, *Radiohead in Their Own Words* (New York: Omnibus, 1988), 46.

<sup>26</sup> Michael Hicks, "The New Quotation" (University of Illinois: DMA Dissertation, 1984), 2.

## CHAPTER 1

### EARLY EXPERIMENTATION WITH JAZZ STRUCTURES BY RADIOHEAD

#### **1996-1998, *OK Computer***

This chapter documents Radiohead's new turn to jazz structuralism in two of their compositions from 1996. "Subterranean Homesick Alien," from *OK Computer*, models "Spanish Key" by Miles Davis, discussed later in this chapter. "No Surprises," from the same album follows Louis Armstrong's "What a Wonderful World." In these two early examples, Radiohead stays close to the framework of their jazz subjects. As in later models, "No Surprises" responds with inter-textual lyrics, texture replication, harmonic progression reduction, and a clear two-part melody counterpoint between both melodies. Aligning the melodies, I show that Thom Yorke sings the verse in harmony with Armstrong leading to a cadence with both singers in unison. Yorke's quote below about "No Surprises" was the only starting point.

#### **Louis Armstrong in "No Surprises"**

We wanted it to sound like [Louis Armstrong's] "What a Wonderful World," and Marvin Gaye-Thom Yorke

#### **Intertextual Lyrics**

In Radiohead's own words, the song "No Surprises" was based on the 1968 recording of "What a Wonderful World," written by Bob Thiele and George David Weiss. Conceived by Thiele and Weiss as a mainstream pop song to confront racial tensions, Armstrong's recording wasn't an instant hit in the United States, but shot to #1 in the UK, where it would remain popular for decades. Thiele, the former director of Impulse Records, with Weiss, a former

arranger for Stan Kenton, and Louis Armstrong, a founder of jazz, all collaborated on a pop music venture that challenged rigid views of genre. As Radiohead attempted to expand their genre, they turned to three historic genre expanders in Armstrong, Weiss, and Theile. Yorke described his perspective at the time: “It was more of a journey outside and assuming the personalities of other people.”<sup>27</sup>

Radiohead has never mentioned why “What a Wonderful World” was chosen as the model for their song, “No Surprises.” In my research, I found an interesting connection between the two songs. In the 1970’s, “What a Wonderful World,” remained popular on the BBC, as a soundtrack for a radio program *The Hitchhiker’s Guide to the Galaxy*, one of Yorke’s favorite sources. I speculate that Thom Yorke, a fan of *A Hitchhiker’s Guide to the Universe*, uses “What a Wonderful World” in reference to the secondary context of *Hitchhiker’s Guide to the Universe*. “Paranoid Android” from the same Radiohead album refers to a main character in *Hitchhiker*, Marvin the Paranoid Android. Moreover, in the opening song, “Airbag,” Yorke sings, “I’m back to save the universe.”

Mirroring texture, melody, harmony, and text, Yorke orchestrates a frightened retrograde inversion of “What a Wonderful World,” which only makes sense in the context of Earth’s demise as depicted in *Hitchhiker*.

“What a Wonderful World” was used as a sarcastic theme song for the weekly broadcast of *Hitchhiker*. In the closing lines of the final radio broadcast of episode six for *Hitchhiker* and the 1981 TV show, Armstrong’s song is heard beneath this closing dystopian lamentation about the Earth’s scheduled destruction:

**Ford Prefect (robot):** It’s very sad you know. At the moment it’s a very beautiful planet.

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<sup>27</sup> Kent, 1997.

**Arthur Dent:** It is indeed. The rich primal greens, the river snaking off into the distance. The burning forests.

**Ford:** And the bang, in two million years it gets destroyed by the Vogons. What a life for a young planet to look forward to. What a waste.

The lyrics of “No Surprises” respond to Armstrong’s “Wonderful World,” as seen in jeopardy through the closing scene above from *Hitchhiker*. Speaking through the context of *Hitchhiker*, Yorke’s first verse responds to society’s failure to save Armstrong’s utopia, “a heart that’s full up like a landfill, a job that’s slowly killing you, bruises that won’t heal, I’ll take the quiet life, a handshake, some carbon monoxide.” Yorke’s intertextual lyrics occur in all three phases of modeling, seen later in “Pyramid Song.”

### **Texture Replication**

“No Surprises” is an early example of the band’s facility to compress their influences into reference points for structural development, rather than formalist fences designed to build safe interiors. As with the other jazz structured compositions in this dissertation, here they retain the key of F, unusual for a grunge band, and keep defining musical fragments that make Armstrong’s “World” most memorable. Radiohead’s collective borrowing has an instinctive Schenkerian sense of musical valuation that gravitates to borrowing significant compositional markers. Starting in the Intro, Radiohead tackles the folk guitar arpeggios from “Wonderful World.”

The nostalgic folk guitar arpeggios of “What a Wonderful World” are inverted in a pessimistic reflection on the nearing expiration of Armstrong’s utopia.

**Example 1.1** – Straight accented triplet arpeggios from “What a Wonderful World”



The rhythmic accents are kept in place across the conversion, as Radiohead changes the meter from 12/8 in “Wonderful World, to straight eighth note 4/4 in “No Surprises.” Xylophone and treble electric guitar replicate the folk guitar timbre, but invert the triad outline to emphasize descent rather than rising motion. The F triad is outlined three times before slipping down to a fatalistic Bb minor chord. Yorke described “No Surprises” as written from the perspective of a character “who was trying to hold it together but gradually falling apart.”

**Example 1.2** – “No Surprises” guitar arpeggios (0:01)



Radiohead’s symbolic inversion and imitation is rare in music, but common in poetry.<sup>28</sup> With the guitar, Jonny Greenwood’s glockenspiel (xylophone on tour) creates a quarter note counterpoint to the guitar that refers to “Wonderful World’s” guitar arpeggios. Radiohead guitarist Ed O’Brien reflected in 2001 on their contorted construction of nostalgia drawn from the strict rhythm of “Wonderful World,” in reference to a mechanical toy rhythm: “He’d give you sheets and once you see the words to, say, “No Surprises,” you immediately think, ah yes,

<sup>28</sup> In literature by Dante, Spenser, and Milton, structural inversions of influences are common. Milton’s mirror poems “L’Allegro” and “Il Pensero” are imitative in terms of structure as well as content. “L’Allegro (the happy life) is the inverse of “Il Penseroso” (the melancholic life) in terms of content, but both are structurally symmetrical to a high degree as described in Herman Rapaport, *The Literary Theory Toolkit* (West Sussex: Wiley-Blackwell, 2011), 114.



we need a guitar for this that sounds like a child’s musical box.”<sup>29</sup> This mixture of childhood rhythmic toys and nostalgia for the natural world defined by mechanical rhythm will be continued as a recurring theme in their next album. Later in “Kid A” recorded in 1999, Radiohead recycles the optimistic arpeggios from “Wonderful World” and reuses it in an electronic ostinato returning to the theme of lost innocence.

The glockenspiel’s half-time pace conjuring images of naïve or innocent nursery rhymes, with the slow mechanical rhythm associated with an old childhood toy, that Radiohead will return to often.

Radiohead synthesizes this motion from F to Db, undercutting the Db with a more disturbing Bb minor chord. This maintains the surprising move from F to a Db from “Wonderful World” by emphasizing it in the glockenspiel counterpoint of the Intro for “No Surprises.”

**Example 1.3** – Glockenspiel counterpoint in “No Surprises” (0:13)



The darkened Bb minor beneath the Db adds a pessimistic outlook towards their optimistic model. In the next section, I will show how their harmonic reduction is also responsive, much like their inter-textual lyrics.

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<sup>29</sup> Ed O’Brien, “Happy Now?” *Mojo Magazine*, June, 2001, accessed April 10, 2016, <http://www.followmearound.com/presscuttings.php?year=2001&cutting=121>.

## Harmonic Reduction of “Wonderful World”

The chord progression in “Wonderful World” migrates from a stable F major to the mysterious and distant Db major on the words “think to myself” in the fifth measure below.

### Example 1.4 – Chord progression for A section of “What a Wonderful World”

Chord progression for the A section of “What a Wonderful World”:

Top staff: F $\Delta$ , A $-$ , B $b\Delta$ , A $-$ , G $-7$ , F $\Delta$ , A $7$ , D $-$

Bottom staff: D $b\Delta$ , G $-7$ , C $7$ , F $\Delta$ , F $+$ , B $b\Delta 7$ , C $7$

In their verse for “No Surprises,” Radiohead absorb the progression of “Wonderful World,” and reassembled the colorful chords in paraphrase.

### Example 1.5 – Chords from “Wonderful World” reduced in the verses of “No Surprises”

Chord progression for the A section of “What a Wonderful World” (repeated):

Top staff: F $\Delta$ , A $-$ , B $b\Delta$ , A $-$ , G $-7$ , F $\Delta$ , A $7$ , D $-$

Bottom staff: D $b\Delta$ , G $-7$ , C $7$ , F $\Delta$ , F $+$ , B $b\Delta 7$ , C $7$

Chord progression for the verses of “No Surprises”:

Top staff: F(SUS2), B $b-6$ , F $\Delta$ , B $b\Delta/D$

Bottom staff: G $-7$ , C $7$ , F $\Delta$ , B $b-6$

“Wonderful World” goes to C7 in the bridge, and “No Surprises” responds by going back and forth between G-7 and C7, a repeated ii7 V7 progression. This common progression is heard

often in jazz and *not previously* in any of Radiohead’s albums. In an earlier iteration, or scratch track of “No Surprises” from 1995, this progression is not present.<sup>30</sup>

This suggests that Radiohead possibly absorbed the ii7 V7 from the bridge of “Wonderful World.” It is used three times in a row for the Chorus section above.

**Example 1.6** – Usage of ii7 V7 progression in chorus of “Creep” (1:30)

The image shows two staves of musical notation for the chorus of "Creep". The first staff contains the vocal melody with lyrics: "no al- arms and no\_ sur pri- ses no al- arms and no\_ sur pris - es". Above the staff are four chord symbols: G-7, C7, G-7, and C7. The second staff contains the background vocal melody with lyrics: "no al- arms and no\_ sur pri - ses si - lent si - lence". Above this staff are four chord symbols: G-7, C7, F(SUS2) (XYLOPHONE TACET), and Bb-6.

To accent this ii7 V7 progression, the background vocals emphasize 7 to 3 voice leading by descending half step, here Radiohead adopts another common jazz practice.

**Example 1.7** – Background vocals emphasize 7 to 3 motion in ii7 V7 progression (3:10)

The image shows a single staff of musical notation labeled "BACKGROUND VOCALS". The staff contains a melody with lyrics: "no al- arms and no\_ sur pri - ses si - lent si - lence". Above the staff are nine chord symbols: G-, G-7, C7, G-, G-7, C7, G-, G-7, and C7. The melody consists of eighth notes and quarter notes, with a descending half-step motion from the 7th degree to the 3rd degree of the scale in each measure.

Later in “You and Who’s Army,” they return to this progression and voice leading in their harmonic model of the doo-wop vocal group, The Ink Spots.

<sup>30</sup> Live concert recording, December 4, 1995, accessed April 10, 2016, <http://citizeninsane.eu/nosurprises.html>.

## Melodic Counterpoint in “No Surprises”

Yorke begins by singing descending half notes, on the same pitch as the violins in the intro to “Wonderful World.” Like the violins in “Wonderful World,” Yorke seems trapped in a vamp, moving back and forth between A and G. Again, this reference points to *Hitchhiker’s Guide to the Galaxy* where this intro is repeated in a long vamp before Armstrong’s verse ([link](#)).

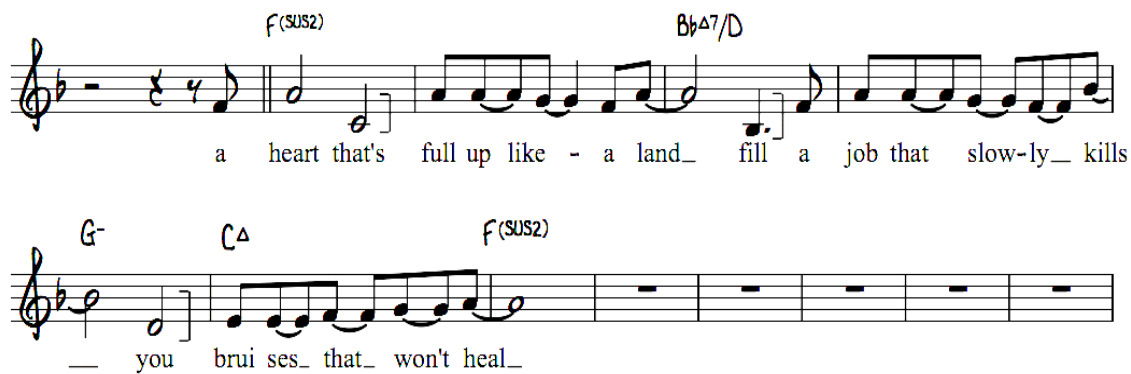
### Example 1.8 – Violin Intro from “Wonderful World” starting on major 3rd in F



Where Armstrong sings optimistically, Yorke sours—“No Surprises is someone who is trying hard to keep it together but can’t.”<sup>31</sup>

In the example below, Yorke leaps down three times, similar to the synth clarinet vamp before “Wonderful World” in *Hitchhiker*, in the link above.

### Example 1.9 – “No Surprises” melody starting on 3rd with downward leaps



Like a counter-melody to Armstrong’s ascending melody, Yorke’s first phrase goes in the opposite direction, trapped in the lower register with three large drops. But at the end of the

<sup>31</sup> Kent, 1997.

verse, Yorke ascends to cadence in perfect unison with the end of Armstrong’s phrase in Example 1.10 below.

**Example 1.10** – Armstrong’s lyrics in unison above Yorke’s, at the end of both verses

(won- der- ful world)

brui- ses\_ that\_ won't\_ heal\_  
they don't speak for\_ us

Overall Yorke’s melody moves in a two-part counterpoint against Armstrong’s, before the melodies cadence together in unison, suggesting that Yorke may have sung in harmony with “Wonderful World.”

**Example 1.11** – Melodic counterpoint combination of “Wonderful World” and “No Surprises” when reduced to 2-part structural motion in half notes

ARMSTRONG

YORKE

Often tagged a pessimist by the media, Yorke continuously rejects overly simplistic depictions of his perspective. Described as a pessimist by journalist Andrew Smith, Yorke fired back with the apocalyptic tenor of *Hitchhiker*, but buoyant hope from “What a Wonderful World”:

For me, even when things are incredibly bleak in terms of the world you see reflected in the newspaper, I still sort of find you can get excited when you look in people’s eyes when they walk down the street and sometimes you see really nasty, terrifying things, but

most of the time you just see a bunch of people trying to get it together and there's something really hopeful in that.<sup>32</sup>

In "No Surprises," Armstrong's utopia isn't recreated; it is seen from a distance, from a vantage point where teenage pessimism, romantic harmony, and jazz intersect. In my evaluation, Radiohead uses jazz often, but only borrows jazz to create heightened emotional responses, not to show virtuosity. Jazz greats Armstrong, Mingus, Davis, and Alice and Coltrane are all highly emotional players chosen by Radiohead and modeled by Radiohead for transcendent emotional expression, not technical proficiency. Throughout this paper, I demonstrate how Radiohead uses models to build a constructive conversation with their idols. From Armstrong's epiphany, "I see trees of green, red roses too, I see them bloom," Radiohead designed an aging memory of Armstrong's Camelot, seen through *Hitchhiker* as Earth faces extinction. In Yorke's lyrics, shown to cadence in unison with Armstrong in Example 1.10, Armstrong's utopian vision is not lost yet: "They don't speak for us."

## **The Electric Sound of Miles Davis in "Subterranean Homesick Alien"**

Like "No Surprises" in this early period, "Subterranean Homesick Alien" stays close to its model, which is "Spanish Key" by Miles Davis. The structural elements are close melodic imitation, harmonic reduction, metric disruption, and texture replication.

### **Background**

In describing Radiohead's "Subterranean Homesick Alien," in 1997, *Request Magazine* points to new themes of otherness, rhythmic displacement, spirituality, and unstable textures or atmospheres that the band explores using jazz through 2011.

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<sup>32</sup> Smith, 2000.

It's an anxious meditation on the alienating effects of modern life, but in a broader sense, it's also about being out of step with the space/time continuum. "Subterranean Homesick Alien" is a forlorn Earth-bound prayer for freedom reverberating in a dreamy, stellar atmosphere.<sup>33</sup>

Whereas the title refers to songwriter Bob Dylan's "Subterranean Homesick Blues," the music refers to Miles Davis's *Bitches Brew*. According to Thom Yorke's own accounts, this composition was inspired Davis's electro-jazz monument.

We weren't really listening to any bands at all - it was all like Miles Davis and Ennio Morricone and composers like Penderecki, which is sort of atmospheric, atonal weird stuff. We weren't listening to any pop music at all, but not because we hated pop music - because what we were doing was pop music - we just didn't want to be reminded of the fact. *Bitches' Brew* by Miles Davis was the starting point of how things should sound; it's got this incredibly dense and terrifying sound to it. This is saying the same stuff we want to say.<sup>34</sup>

Initially, Radiohead's suggestion that this song was inspired by *Bitches Brew* seemed difficult for me to resolve beyond surface timbral characteristics. Yorke described the influence of Miles Davis, "Subterranean Homesick Alien" was born out of listening to (Miles Davis's) *Bitches Brew* endlessly every time I drove my car. I completely missed it... but there again I didn't."<sup>35</sup> Radiohead's bright and hovering 3/4 ballad in G7 seemed to be an unlikely match for any of the songs from *Bitches Brew*, until I transcribed one peculiar episode, the second half of Davis's "Spanish Key," which is an extended mixture of G7 and G7alt. My research suggests that "Subterranean Homesick Alien" came directly from the second half of "Spanish Key."

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<sup>33</sup> "Subterranean Homesick Alien," 1997.

<sup>34</sup> Dave DiMartino, "Give Radiohead Your Computer," *Launch Magazine*, February 5, 1999, CD-ROM. <http://citizeninsane.eu/s1998-05-02Launch.htm>

<sup>35</sup> Phil Sutcliffe, "Radiohead: An Interview with Thom Yorke," *Q Magazine*, October, 1997, <http://www.followmearound.com/presscuttings.php?year=1997&cutting=46>.

## **Bitches Brew Influence**

In *Bitches Brew*, Davis's fusion ensemble improvises in various 4/4 rock and funk grooves. Inspired by the psychedelic soul sound of *Sly and the Family Stone*, jazz musician Charles Lloyd's crossover psychedelic *Love In*, and sideman Tony Williams's jazz rock direction in *Lifetime*, Miles Davis began to cut ties with acoustic textures in 1969 on the album *In a Silent Way*. Leaving the tranquil electric harbor of *In a Silent Way*, Miles Davis's *Bitches Brew* in 1970 dove into the murky deep end of fusion, where driving rock metrics, electric timbres, and psychedelic spiritualism submerged his enduring Ravel modalism. Released in 1970, *Bitches Brew* won a Grammy, shattered jazz record sales by quickly selling 400,000 copies, but also ignited questions of authenticity in jazz that are still vibrant today. Generations of young rock musicians have flocked to *Bitches Brew* as a rite of passage. Radiohead's pilgrimage to Miles Davis is not dissimilar from rock musicians before them, but their immersion appears to destabilize their fundamental assumptions in verse/chorus form, tonality, timbre, creative development, lighting their way for genre exodus. Jonny Greenwood is quick to cite Davis's 1969 proto-fusion classic, *Bitches Brew*, as the main artistic template for *OK Computer*. "We love all the atmosphere and chaos on *Bitches Brew* – the fat, dirty sound of two electric pianos and the [multiple] drummers," Greenwood says, speaking from London. "That's why *Bitches Brew* is so good, beyond just Miles' trumpet playing."<sup>36</sup>

All of the compositions on *Bitches Brew* use a dark and chromatic modal approach except the second half of "Spanish Key." Throughout *Bitches Brew*, the ensemble plays primarily in minor, Phrygian, and altered dominant modes, with the improvising soloist invoking extended chromaticism for tension and sustained dissonance outside the planning harmonic area. Many of

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<sup>36</sup> George Varga, "Radiohead's Jazz Frequencies" *JazzTimes*, November, 2001, accessed April 10, 2016, <http://jazztimes.com/articles/20174-radiohead-s-jazz-frequencies>.



the plateaus begin in dominant and progress into altered dominant before changing with a cue by Miles Davis, or a tape edit by producer Teo Macero in post-production. In my evaluation, “Subterranean Homesick Alien” could only be modeled after musical elements in the second half vamp from Davis’s “Spanish Key.” It is the only plateau on the album in G13, and it is eight minutes long, perfect for playing along to.

### Metric Disruption

An important borrowed element here from *Bitches Brew* is the distortion of time and harmony, which Yorke pursues through 2011. Davis played the top line in the example below, but Teo Macero’s use of the Echoplex delay module disrupts the meter and harmony by repeating a faster version of reality. Davis’s distortions and “chaos” will continue to appear through “Bloom” in 2011.

**Example 1.12** – “Bitches Brew” tempo polyphony and chromatic tonal disruption (1:00)

The image shows two staves of musical notation. The top staff is labeled 'TPT.1' and has a tempo marking of '♩ = 88' and a dynamic marking of 'ff'. It contains a rhythmic pattern of eighth notes with accents, followed by a rest and then a single note with a flat. The bottom staff is labeled 'DELAY EFFECT' and has a tempo marking of '♩ = 120' and a dynamic marking of 'mp'. It contains a similar rhythmic pattern of eighth notes with accents, followed by a chromatic scale of eighth notes. There are horizontal lines under the bottom staff indicating phrasing or breath marks.

Thom Yorke said in 2001, “I’d much rather be someone like Miles Davis who just turns his back on the audience and listens to what everyone is doing.”<sup>37</sup> Miles Davis use of delay foils tempo by reiterating phrases at alternate tempi. Harmony is also distorted when passing notes in Example 1.17 are stretched into atonal clusters. Later in this document, I will show how Yorke will cite an interest in cycles and gravity through the ideas of Stephen Hawking. Here, the same

<sup>37</sup> Gideon Yago, Thom Yorke video interview, *MTV*. June 20, 2001. Web.

shifting and stretched time questions are expressed through emulation of Miles Davis’s delay effect.

### Harmonic Reduction of “Spanish Key”

From the opening intro, “Subterranean” shows Radiohead moving toward jazz, and away from grunge. In 1997, Yorke described the album as “just dealing with noise and fear, and trying to find something beautiful in it.”<sup>38</sup> This chord progression seems to be inspired by the overall harmonic freedom of *Bitches Brew*. After the intro, the bass pedals on G for most of the composition.

#### Example 1.13 – Jazz influenced progression in “Subterranean Homesick Alien” Intro (0:01)

The musical notation shows the guitar and bass parts for the intro of "Subterranean Homesick Alien". The guitar part is in 3/4 time and features a series of chords: D-, AbΔ, DΔ/A, DbΔ/Ab, and G7. The bass part is in 3/4 time and features a steady eighth-note pedal point on G.

Radiohead distills out characteristic features from “Spanish Key.” “Spanish Key” is a plateau modal composition in which the musicians freely alter the chord qualities between Phrygian, Dorian, and altered dominant, above the root which is consistent.

<sup>38</sup> Tom Sinclair. “Radiohead Trip,” August 8, 1997. *Entertainment Weekly*.

**Example 1.14** – “Subterranean” verse (0:30) reduction of comping from “Spanish Key” vamp (3:15)

Davis’s mixture of modes above a G pedal also seems to have influenced the construction of the chord progression for “Subterranean.” Like “Creep,” “Subterranean” stretches out a chord progression. In this case, Davis’s wide-open structure: G7, or G7alt, or G7sus, or G Dorian, or G Phrygian seems to become the progression below in Radiohead’s application.

### Melodic Imitation

Throughout the eighteen-minute performance, Miles Davis uses one significant melody to cue the changing of modes. This motif, initially played in E, can be heard fifteen times in “Spanish Key.”

**Example 1.15** – Miles Davis melody in “Spanish Key” (0:35)

“Spanish Key” in 4/4 and “Subterranean” in 3/4 are in different meters, but their tempi are compatible. “Subterranean” can be easily played over the G13 vamp in “Spanish Key,” again suggesting that Radiohead might have played along “Spanish Key” to design “Subterranean.” In the example below, I converted Jonny Greenwood’s guitar solo to 4/4 by turning the dotted half note from “Subterranean’s” 3/4 into a half note in Spanish Key’s 4/4.

**Example 1.16** – “Subterranean” guitar solo (2:35) converted to 4/4, above “Spanish Key” bass in same key

51 "SUBTERRANEAN" CONVERTED FROM 3/4 TO 4/4

"BITCHES BREW BASS" G<sup>13</sup> OR G<sup>7</sup>ALT.

In his solo, Jonny Greenwood compress Davis’s ascending run to the dominant 7th chord tone in the opening phrase of his guitar solo. This motif from Davis was played seventeen times in “Spanish Key,” as the primary melodic material. In a 2001 interview with *Mojo Magazine*, Yorke said to Greenwood, “Your guitar solo was all that Miles stuff.” Radiohead’s adventurous ability to synthesize and alter influences seems constant.

**Example 1.17**– Comparison of Davis’s melody in “Spanish Key” and Greenwood’s phrase

67

MILES DAVIS G<sup>7</sup>

JONNY GREENWOOD G<sup>7</sup>

The blues rock phrase of Jonny Greenwood’s guitar on “Subterranean” is out of character for his playing style with Radiohead, and seems to refer to guitarist John McLaughlin’s blues inflections on “Spanish Key.”

**Example 1.18** – Jonny Greenwood (1:56) in “Subterranean”

2ND X ONLY (MCLAUGHLIN BLUES REFERENCE)

GUITAR

Thom Yorke’s arpeggios on Rhodes keyboard are a new element in Radiohead’s music, and suggest a correlation to Joe Zawinul’s 3/4 overlays at 3:58 in “Spanish Key” or 1:00 in “Bitches Brew.”

**Example 1.19** – Thom Yorke’s Rhodes keyboard (0:10)

Zawinul’s motif at 3:58 implies a 3/4 rhythm and B ostinato like Yorke’s phrase above.

**Example 1.20** – Joe Zawinul 3 over 4 rhythm (3:42) and (3:58) in “Spanish Key”

In the third verse at 3:28, Yorke sings a suspended 9th over the G pedal, in a phrase that resembles the common practice of Miles Davis or John Coltrane. In my research, Yorke has only sung the 9th over the bar line once before in their transitional song “Fake Plastic Trees,” from *The Bends* in 1995. In the interlude below, Yorke and Greenwood recreate the characteristic interaction between Zawinul and McLaughlin from *Bitches Brew*.

**Example 1.21** – Yorke sings the 9th over G pedal

In “Subterranean” at 2:00, the Rhodes and guitar use a call and response section that resembles Zawinul’s sustained and descending arpeggios above McLaughlin’s blues phrases, like much of the comping on *Bitches Brew*. The similar use of flange also implies the electric jazz texture of *Bitches Brew*.

**Example 1.22** – Thom Yorke and Jonny Greenwood interlude in “Subterranean” (2:00)

The musical score consists of two systems. The first system (measures 82-86) features a Rhodes Keyboard part in treble clef and a Guitar part in treble clef. The Rhodes part is marked with a 3/4 time signature and includes a '(ZAWINUL REFERENCE)' annotation above measures 83-84. The guitar part is marked '2ND X ONLY (MCLAUGHLIN BLUES REFERENCE)'. Chord symbols G7, G6, and C-6/G are placed above the Rhodes staff. The second system (measures 87-90) shows the Rhodes part with a first ending (1.) and second ending (2.) bracketed over measures 87-89. A GΔ chord symbol is placed above measure 89. The guitar part continues with a similar melodic line.

After listening to *Bitches Brew* every day for three months driving to the studio, Yorke recalled growing into an appreciation of the album:

The first time I heard it I thought it was the most nauseating chaos. I felt sick listening to it. Then gradually something incredibly brutal about it and incredibly beautiful... You’re never quite sure where you are in it, it seems to be swimming around you. It has that sound of a huge empty space, like a cathedral. It wasn’t jazz and it didn’t sound like rock ‘n’ roll. It was building something up and watching it fall apart, that’s the beauty of it. It was at the core of what we were trying to do with *OK Computer*.<sup>39</sup>

In “building something up,” Radiohead was using a referential blueprint of Armstrong and Davis. According to their producer, Nigel Goodrich, this was Radiohead’s last “conventional” rock album. “Essentially, that was a guitar record dabbling in other dimensions,” Goodrich says. Their modeling practice outlined in this chapter traced closely their jazz influences. Radiohead’s turn to Miles Davis’s blurry texture, modal reduction, and melodic imitation seem like

<sup>39</sup> Sutcliffe, 1999.

silhouettes of “Spanish Key.” Their new textures seemed to confuse industry insiders including Paul Kolderie who mixed for Radiohead. Kolderie remembers thinking, “This is weird! Is this their new record? I don’t get it! It was very murky and kind of a mess.”<sup>40</sup> In the next chapter, I will examine how their modeling practice became more complex conversations with their jazz influences, responding with deeper structural variations and extrapolations. After a year of touring to support *OK Computer*, Radiohead returned to emulate jazz for their next album, descending deeper, into the murkier leagues of Charles Mingus.

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<sup>40</sup> Trevor Baker, *Thom Yorke – Radiohead and Trading Solo* (Shropshire: Independent Music Press, 2009), 121.

## CHAPTER 2

### ADVANCED INTERACTIONS USING JAZZ STRUCTURES

#### **1998-2002, *Kid A* and *Amnesiac***

After the tour for *OK Computer*, Radiohead's experimentation with jazz moved to a higher level of interaction. In this middle period, their responses seem less tethered to their jazz sources. Still in conversation, they responded with the same techniques but a more independent voice. Radiohead's "National Anthem" follows Charles Mingus's "Wednesday Night Prayer Meeting," but with more autonomous melodic material. "Pyramid Song" refers to the melodic development of Alice Coltrane's "Blue Nile" as a practice of linear development. In "Kinetic," Radiohead developed in divergent call and response with Miles Davis's "Miles Runs the Voodoo Down." During this period, their responsive style is nuanced and elegant. Asked about their new album *Kid A*, O'Brien said: "Everything we'd done previously had really classic structures. With this, we majorly deconstructed what we were doing."<sup>41</sup>

#### **Charles Mingus in "National Anthem"**

Since the early 1990's, Thom Yorke and Jonny Greenwood had admired jazz bassist, Charles Mingus. After *OK Computer*, they turned to his politics and structure to escape further from their creative frustrations with rock. Interviewed by Andrew Smith while on tour for their new album *Kid A*, Thom Yorke opened up about his creative frustrations:

Yeah, but if you've lost faith in the way that you're going, then that's where you end up. I always used to use music as a way of moving on and dealing with things and I sort of felt like, that the thing that helped me deal with things had been sold to the highest bidder

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<sup>41</sup> Tom Moon, "'Radiohead Companion to Kid A Sessions.'" *Philadelphia Inquirer*, June 3, 2001, accessed April 10, 2016, [http://articles.philly.com/2001-06-03/entertainment/25324527\\_1\\_1997-s-ok-computer-amnesiac-thom-yorke](http://articles.philly.com/2001-06-03/entertainment/25324527_1_1997-s-ok-computer-amnesiac-thom-yorke).



and I was simply doing its bidding. And I couldn't handle that... So there's no bravado about we're gonna' shake this shit up, really. It's more like, I can't carry on like this.<sup>42</sup>

Deconstructing their chord progressions, Radiohead modeled the long plateau of Mingus's "Wednesday Night Prayer Meeting." As jazz increasingly informed their designs, many listeners were caught off guard: "*Kid A* may be dismissed before it has a chance to penetrate craniums trained to gobble entertainment while idling in neutral."<sup>43</sup> The Associated Press defended Radiohead, describing *Kid A* as a break from rock conventions: "Challenging, utterly bewildering, adventurous and willfully un-commercial, Radiohead's new compass is not in sync with 'N Sync or anything else north of platinum these days. *Kid A* is nobody's clone, and that indeed may be its saving grace."<sup>44</sup>

Journalists and loyal fans defended Radiohead who were now turning off some fans. Gaining other listeners, *Kid A* was their first #1 album. Dan DeLuca, from the Philadelphia Inquirer, encapsulated the media's support for Radiohead's change in direction: "Loyalists sent *Kid A* straight to the top of the charts, and much of the music press hyperventilated with glee. Spin dubbed the Thom Yorke-led quintet "the world's greatest rock band"; Vanity Fair declared the guys 'saviors.'<sup>45</sup>

Behind their success, the band was inspired by Charles Mingus's polemics on race. Radiohead used Mingus's voice from the 1960's to rant against technology. According to Rolling Stone, "*Kid A* is, in fact, a clear-eyed space opera about a plausible future - a generation raised like plant life. And inside the hermetic electronics and art-pop frost is a heated argument

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<sup>42</sup> Smith, 2000.

<sup>43</sup> (2000). Review of *Kid A*. *AP*

<sup>44</sup> Ibid.

<sup>45</sup> Dan Deluca, "Amnesiac Stays in the Background." *Philadelphia Inquirer*. June 6, 2001.  
[http://articles.philly.com/2001-06-03/entertainment/25322881\\_1\\_amnesiac-pyramid-song-yorke](http://articles.philly.com/2001-06-03/entertainment/25322881_1_amnesiac-pyramid-song-yorke).

about conformity, individuality and the messy consequences of playing God.”<sup>46</sup> Absorbing Mingus’s structure, Radiohead risked their career. David Fricke from *Rolling Stone* described their shift, stating that the “hook, riff, bridge - has been warped, liquefied and, in some songs, thrown out altogether. If you’re looking for instant joy and easy definition, you are swimming in the wrong soup.”<sup>47</sup>

For *Kid A*, Radiohead called jazz trumpeter Andy Bush to build a Mingus brass section. Bush hired two altos, two tenors, baritone, and two trombones—the same odd instrumentation used by Mingus for “Wednesday Night Prayer Meeting.” Every structural event in “Prayer Meeting” would be recreated in “National Anthem,” but sound entirely different in a rock vocabulary and texture.

### **Melodic Mirroring of Mingus in “National Anthem”**

“National Anthem” (2000) by Radiohead is modeled through elements taken from “A Foggy Day” and “Wednesday Night Prayer Meeting,” by Charles Mingus and “Theme de Yoyo” by the Art Ensemble of Chicago. Thom Yorke, Jonny Greenwood, and bass player Colin Greenwood mentioned these jazz models in different interviews from 2000 to 2003. “Prayer Meeting” is the major structural model, but all three utilize free jazz, ostinato, accruing atonal pyramids, and genre dismissal. Teo Macero, engineer for Mingus and Radiohead influence, remembers Mingus’s influence on free jazz, “Mingus was writing polytonality, he was writing pedal tones, and using so many devices long before they were current.”<sup>48</sup>

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<sup>46</sup> David Fricke, “Kid A,” *Rolling Stone*, October 12, 2000, accessed April 10, 2016, <http://www.rollingstone.com/music/albumreviews/kid-a-20001012>.

<sup>47</sup> Ibid.

<sup>48</sup> John Goodman, *Mingus Speaks* (Los Angeles: University of California Press, 2013), 65.

**Example 2.1** – Mingus’s free jazz horns at the beginning of “A Foggy Day”



The lineage of free jazz goes through Mingus’s experimental album *Pithecanthropus Erectus* in 1956. Unlike his previous recordings sessions, Mingus taught many of the arrangements by ear including the free jazz car horns in “A Foggy Day.”

From these large intervals and dissonant chromatic choices by the horn players, Mingus’s experiment points forward to his elongated and interruptive chordal pyramid structures used in his later compositions, including “Hobo Ho” and “Wednesday Night Prayer Meeting.”

When asked about “National Anthem” in 2001, Jonny Greenwood mentioned “Wednesday Night Prayer Meeting,” in 2003 he mentioned “Theme de YoYo” by The Art Ensemble of Chicago. But in 2000, Thom Yorke asked the brass and saxophone players to sound like car horns stuck in traffic, which I connect to Mingus’s “A Foggy Day” in Example 2.1 above: “On the day I said to them, “You know when you’ve been in a traffic jam for four hours and if someone says the wrong thing to you, you’ll just kill ‘em, you’ll fucking snap and probably throttle them?”<sup>49</sup>

At the first brass entrance at 1:15, this free chromatic line, in the style of Mingus’s car horns, is heard over the ostinato in the bass, disrupting the D pedal’s tonality, like “angry drivers.”

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<sup>49</sup> Baker, 2009, 145.

**Example 2.2** – First brass entrance in “National Anthem” (1:15)



Regarding “National Anthem,” Trevor Baker wrote: “Thom had been listening to a lot of Charles Mingus and he wanted it to have the same kind of aggressive sound as the jazz musician’s notorious 1962 Town Hall Concert... It was exactly the kind of inspired chaos that Thom was looking for.”<sup>50</sup> In the bass line, surprisingly performed by Yorke, Mingus’s characteristic rising 3rd blues ostinato is modeled, and used in long form beneath the composite form, as Mingus often did.

**Example 2.3** – Mingus bass melody from “Wednesday Night Prayer Meeting”



**Example 2.4** – Mingus bass melody from “Hobo Ho”



Yorke recorded the bass line below himself for “National Anthem,” which draws from Mingus’s driving and compressed shape used in the examples above. Like a blues, Yorke develops an interchangeable major and minor third above the root. Above the bass line in Example 2.5, the four notes of Melody 1 are the primary developmental material throughout

<sup>50</sup> Ibid., 143.

“National Anthem.” Only at the end of the composition are these four notes fully revealed clearly. When I asked Radiohead trombonist Liam Kirkman about this melody in an interview, he responded, “I think the only written notes were the ondes Martenot line (A,F#,Bb etc) and Thom already had the baritone/bass trombone figure in mind. There were [sic] no instructions regarding how we addressed the harmony.”

**Example 2.5** – “National Anthem” melody 1 and bass melody

The image shows two systems of musical notation. The first system is labeled 'D7#9' and the second is labeled 'G-'. Each system consists of a treble clef staff and a bass clef staff. The treble staff in both systems contains a melodic line with a slur over the first three notes. The bass staff in the first system contains a rhythmic pattern of eighth notes, while the second system contains two measures of a bass line with a '2' and a double bar line with repeat dots.

In the most abstract substitution that I have uncovered, Radiohead replaces the opening jazz soloists (Jackie McLean and Booker Ervin) in “Wednesday Night Prayer Meeting” with pitch sliding performed on the ondes Martenot. During our interview, Kirkman described the session: “We did do a few takes. I think the session was probably all day with a break for lunch. My own recollection of the process was Thom and Jonny organizing the horns into various roles. bass trombone/baritone ostinato. Saxes and trumpet covering the ondes Martenot etc. My own instruction was pleasantly ‘just improvise’.”

The ondes Martenot improvises around Melody 1, hinting at the full arrival later in the brass at 3:30. At 0:23, the ondes Martenot of Jonny Greenwood follows the arc of a jazz

improvisation, but the melody is searching for its clearest self which is only beginning to develop. Melody 1 from Example 2.6 arrives openly in the brass unison at 3:30.

**Example 2.6** – Jonny Greenwood improvisation on Melody 1 (0:23)

Musical score for Ondes Martenot, Example 2.6. The score is written on three staves in treble clef with a key signature of two sharps (F# and C#). The first staff is labeled 'ONDES (MARTENOT)'. The music consists of a series of notes with various accidentals and ornaments. Above the first staff, there are handwritten annotations: 'D7#9' above the first measure, 'G-' above the second measure, and 'G-' above the sixth measure. The second staff begins with a measure number '10' and has 'D7#9' above the first measure and 'G-' above the sixth measure. The third staff begins with a measure number '15'. The music ends with a double bar line and repeat dots.

At 2:18, baritone saxophonist Pepper Adams pedals on the tonic, before Mingus’s exclamation, ‘Yeah!’ in “Wednesday Night Prayer Meeting.” Radiohead’s baritone saxophone, Stan Harrison follows suit in “National Anthem,” pedaling in a shifting minor 7th phrase at 2:40, before Yorke exclaims, “Holding on!”

**Example 2.7** – Baritone saxophone ostinato (2:18) in “Prayer Meeting”

Musical score for Baritone saxophone ostinato, Example 2.7. The score is written on a single staff in bass clef with a key signature of two sharps (F# and C#). The music consists of a series of notes with various accidentals and ornaments, forming an ostinato. The music ends with a double bar line and repeat dots.

**Example 2.8** – Stan Harrison’s baritone ostinato (2:40) in “National Anthem”



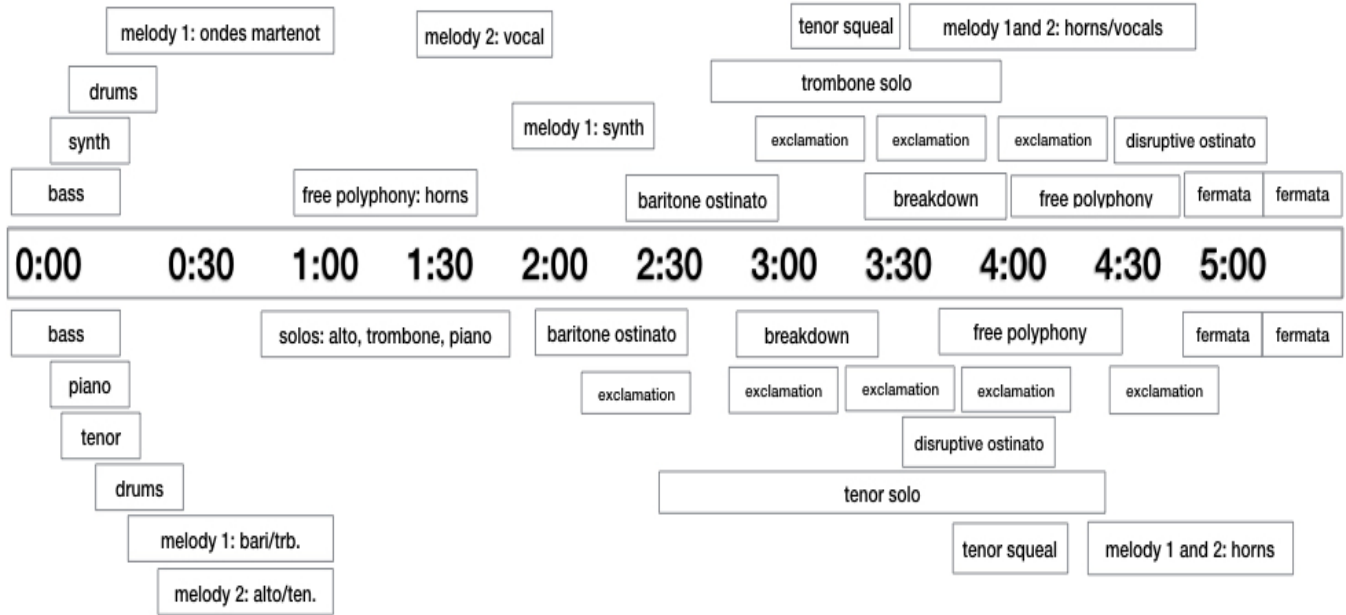
**Structural Replication of “Wednesday Night Prayer Meeting” in “National Anthem”**

“National Anthem” on *Kid A* triangulates rock, jazz, and Western Art music of the 20<sup>th</sup> century. The song uses modern collage recording techniques—a look retrospectively at all that has happened in the last 100 years. The genres invoked are not melted, but fused together, implying that references to the past can be understood by their listeners. The bass ostinato remains a stagnant motif while electronics, and free jazz layers are stacked like the abstract limbs of a Joan Miro mobile.

Overall, “National Anthem” develops in a mirror of all of the major entrances and events in “Wednesday Night Prayer Meeting.” In both compositions, bass melodies begin, followed by Melody 1 and 2. A baritone saxophone ostinato leads into a drum break down, followed by an ostinato that attempts to interrupt the tempo in both pieces. Both use exclamations at specific points and end with two long fermatas. “National Anthem” diverges by degree in substituting free jazz polyphony for individual soloists, and replacing the long tenor solo with tenor trombone. The graph below shows a structural comparison. Although Jonny Greenwood only mentioned “Wednesday Night Prayer Meeting” once in an interview, the graph below shows consistent structural alignment of all major events.

**Graph 1.1** Linear structural replication of “Prayer Meeting” in “National Anthem”

“National Anthem” by Radiohead



“Wednesday Night Prayer Meeting” by Charles Mingus

**Harmonic Resolution through Jazz**

“National Anthem” has one structural paradox. The ostinato conflicts with the G- chord in measure three. The horn players were only given a four note melody of whole notes above in example 2.5 (A F# Bb G) without the chords. According to trombonist Liam Kirkman and saxophonist Stan Hamilton, who both played on the recording session and tour, “There was a core part they wanted to hear but only very subliminally, I think.”<sup>51</sup>

In a general sense, the horn players coalesce around two bars of D7 alt going to G-, building a harmonic bridge over the difficult F# in the bass. Liam Kirkman’s trombone solo mixes blues,

<sup>51</sup> Ibid., 144.



D minor pentatonic, and a recurring G F# F theme. In my analysis, Liam Kirkman's solo goes straight to the conflicting G- over F# pedal and solves the puzzle, making it a strength of the piece. Kirkman develops the three chromatic notes, in four phrases. Except for the second development, each phrase focuses longer on the 3 note cell. In an interview with Kirkman (see Appendix C), I asked him about this paradox:

**Carney:** Your solo seems to have some D minor pentatonic, and blues, and a couple points where you emphasize a descending chromatic figure G F# F. That chromatic figure ties in with the dissonant conflict in the chord progression: G minor over the F# to D pedal in the bass. Any memories of scales, or what you were hearing, or trying to hear the changes?

**Kirkman:** The solo that made the album is exactly as you describe. I think my approach during recording (that take!) was no doubt trying to emphasize the presence of both major and minor 3rds over the D pedal. I didn't think of any chords as such and would mentally justify any rogue notes in relation to D (#5,b9 implying dominant etc.). I can't speak for the other players but personally saw the context as mostly D7#9.

Example 2.9 – Liam Kirkman Solo Transcription on “National Anthem”

By continually returning to the dissonant paradox, it is demystified. Kirkman’s solo deals with this conflict through a jazz improvisation, turning conflict into constructive thematic material.

**Carney:** Is there anything I haven’t asked you that comes to mind about the session that you think is important?

**Kirkman:** One thing that is curious is the lineup. 5 saxophones, 2 trombones, 1 trumpet... Is this something Mingus used??

**Carney:** It’s the same instrumentation as Mingus’s “Wednesday Night Prayer Meeting” plus Andy Bush on trumpet, who booked the session.<sup>52</sup>

<sup>52</sup> Liam Kirkman, interview with the author, January 27, 2016.

## Alice Coltrane in “Motion Picture Soundtrack”

“I’d listen to my aunt’s stuff, and I could hear why she made this devotional music, I could hear her dealing with John Coltrane’s passing in her music. It made sense to me. It was something I tried to capture, as well.” -Steven Ellison (Flying Lotus) in 2010, one year before Radiohead asks him to remix their song.

Radiohead’s “Motion Picture Soundtrack” is first documented in a 1995 studio scratch recording ([link](#)), most likely as an early possibility for the album *OK Computer*, but was supposedly written earlier in 1992.<sup>53</sup> “Motion Picture Soundtrack” was not released as a composition until the 2000 album *Kid A*. This song’s metamorphosis from a medium tempo 1990’s rock ballad to a transcendental ambient spiritual shows strong evidence of Alice Coltrane’s musical influence. Here, Radiohead’s song that originated in their 1990’s grunge “shoe gazers” style has grown into a mature expression of Coltrane spirituality.<sup>54</sup> In Radiohead’s composition, the harp samples appear to be taken from “Journey in Satchidananda” at 4:22.

### Example 2.10 – Alice Coltrane Harp Sample from 4:22 in “Journey in Satchidananda”



Beyond simply sampling Alice Coltrane for her harp, Radiohead’s voice leading and harmony indicates a growing influence of jazz. The opening chorale, not heard on their early scratch recordings, is reminiscent of “When a Man Loves a Woman,” Coltrane’s “Going Home,” and a classical requiem. John Coltrane’s universal religion begins to crescendo in Radiohead’s compositions. In intermediate performances before the recording session, Jonny Greenwood is seen playing the chorale on jazz organ. By the time of the album, Yorke records the chorale on

<sup>53</sup> “Radiohead – Motion Picture Soundtrack demo acoustic,” *YouTube*, accessed April 10, 2016, <https://www.youtube.com/watch?v=nmjyUce7kSU>.

<sup>54</sup> Radiohead often refer to themselves and others in the early 1990s as “shoe gazers,” or teen grunge bands who apathetically stared at their shoes on stage while performing in an act of dismissal.

Harmonium, an older pump organ. Colin Greenwood reflected on using “Motion Picture Soundtrack” as the closing to an album driven by electronics: “It’s like *The Wizard of Oz*, at the end of this mad record with all these mad sounds, you get the curtains pulled back and there’s this bloke pumping... and you see after all the technology and the Pro Tools and the samplers, at the end of the day it’s just like...[end].”<sup>55</sup>

After the final verse in the original scratch version from 1995, Yorke returns to a rhythmic vamp on the opening chord sequence. Five years later, the vamp is removed, the structural resolution is reborn into an open pedal drone, using waves of E minor pentatonic arpeggios sampled from Alice Coltrane, and bowed acoustic bass. In terms of harmony, chords that were major triads in 1995, are now major 9th chords in 2000, suggesting a jazz influence. Radiohead cuts ties to the circular vamp of their youth, with the phrase “I guess I’ll see you in the next life.”

What began as teenage apathy in 1992 is now spiritual transfiguration in 2000. Coltrane’s universal religion welcomes Radiohead without a required commitment. Here Radiohead has found jazz harmony to fulfill earlier boundary-pushing inclinations. Since 1992, Yorke had been singing A over G in this song, like a 9th from early John Coltrane.<sup>56</sup> In the final version of “Motion Picture Soundtrack,” the G triad has become G major7 in measure 33 at the beginning of an interesting transitional sequence leading into the Alice Coltrane samples of the finale. The G major pentatonic scale sampled also superimposes modal jazz over their progression

At the same time, the angst of Yorke’s repeated singing of the major 9th on beat one to the words “red wine...cheap...help...crazy...maybe...stop,” has finally found a suitable

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<sup>55</sup> David Elrich, “Radiohead’s Motion Picture Soundtracks,” *The Dissolve*, July, 22, 2014, accessed April 10, 2016, <https://thedissolve.com/features/exposition/669-radioheads-motion-picture-soundtracks/>.

<sup>56</sup> “Blue Trane” and “The Night Has a Thousand Eyes” are characteristic examples of Coltrane’s unique 9<sup>th</sup> as a suspension.

orchestration and spiritual resolution into the Coltrane school. Andrew Smith's review in *The Guardian* suggests West African trance or Pentecostal spiritual possession, forty years after John Coltrane's Pentecostal rebirth in *A Love Supreme*, and a century after jazz pioneer Buddy Bolden first took the "Holy Roller" exaltations from his mother's Pentecostal service into a New Orleans street band. Smith states that "Yorke starts to shudder and squirm as though someone's plugged him into the mains, as though caught up in religious ecstasy. It's an extraordinary moment and I've only ever heard a more fevered response to something a band has done once before."<sup>57</sup>

*Dissolve* journalist Brian Ehrlich's comments on Radiohead suggest a new undercurrent of Coltrane spiritualism: "'Motion Picture Soundtrack' is a composition that hinges upon contradictions, so powerful because it doesn't lead listeners to its meaning so much as it returns them to their awe."<sup>58</sup> In a 2005 interview, Yorke affirmed Coltrane's influence:

We're a much more confident band now, compared to *Ok Computer*, we felt like we were on a line...I know why I'm into music now...Politics is quite a poisonous subject, and extremely addictive, and it spirals out of control. It's only because of the music that I was able to explore those things, and that was the only place for this blind terror to end up. A few years ago someone gave me a tape, which was an interview with John Coltrane. I don't know why they gave me that. It's a really bizarre thing...This guys like following him around after the show, and John Coltrane actually opens up, which he didn't a lot, and he's just sort of saying "I got into politics for a while and then I just decided to channel it down my horn. That was the best place for it to be, because everywhere else was ugly." And that's basically how I feel.<sup>59</sup>

After the release of "Motion Picture Soundtrack" and "National Anthem" on *Kid A*, Jonny Greenwood reflected, "We should also be getting a kicking for ripping off Mingus and Alice Coltrane, people who we are equally stealing from. The difference is that they're not in fashion and aren't perceived as so cutting edge. No one said 'How can you so shamelessly take

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<sup>57</sup> Smith, 2000.

<sup>58</sup> Ehrlich, 2014.

<sup>59</sup> "Montreux Jazz Festival, full band," *YouTube*, accessed April 11, 2016, [https://www.youtube.com/watch?v=vGDW\\_42qImM&feature=youtu.be](https://www.youtube.com/watch?v=vGDW_42qImM&feature=youtu.be).

the texture of Alice Coltrane’s second album and put it on one of your songs?”<sup>60</sup> This evolution from a grunge ballad in 1992 to a Coltrane inspired rubato shows a deeper commitment to jazz intentions and construction. In “Motion Picture Soundtrack” they show an ability to move away from their models with a more independent design not drawn from an exact structure.

### **Alice Coltrane and Charles Mingus in “Pyramid Song”**

In “Pyramid Song,” Radiohead builds an advanced response to Alice Coltrane’s “Blue Nile” using their characteristic practice of inter-textual lyrics, melodic mirroring, harmonic modeling, and metric distortion. Compared to their earlier period, the melodic mirroring is more advanced in each category. In Radiohead’s melodic mirroring of Alice Coltrane, her linear development using tritonic expansion is recreated in a more independent melody. The inter-textual lyrics respond to a group of spiritual texts rather than one. The harmonic modeling explores complex jazz modal mixture of Dorian and Phrygian. The metric distortion in “Pyramid Song” mixes practices like John Coltrane’s modal style with the palindrome and row technique of Olivier Messiaen.

### **Background**

Yorke has recounted in interviews about his experience writing “Pyramid Song” after seeing an Egyptian exhibit at a museum, but other factors I have found show that the origins of this song could also be attributed to Alice and John Coltrane.<sup>61</sup> As mentioned in the introduction, Radiohead used Alice Coltrane’s music to walk on stage for their *Amnesiac* tour. In an article in

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<sup>60</sup> Jonny Greenwood, *Radiohead in Their Own Words* (New York: Omnibus, 2000), 43.

<sup>61</sup> In interviews, Radiohead have often suggested that Charles Mingus’s *Freedom* inspired “Pyramid Song”.<sup>61</sup> Originally, “Pyramid Song” had congregational clapping like Mingus’s *Freedom*, but those claps were removed to reappear in *We Suck Young Blood*, on their next album, *Hail to the Thief*.

*Rolling Stone*, the group stated, “We used Alice Coltrane as coming-on music, as a sort of good vibe blessing of the last concerts we did.”<sup>62</sup> The entrance music is reported by audience members to be “Blue Nile,” by Alice Coltrane.

“Pyramid Song” combines religious influences in a synthesis similar to John Coltrane’s quest for a “universal sound,” that is beyond genre. The opening lyrics of “Pyramid Song” synthesize aspects of outsider “blackness” in America, in tribute to the African-American spiritual narrative of “Wade in the Water” and “Swing Low Sweet Chariot.”

**“Wade in the Water” Verse 3**

Look over yonder, what do you see?  
God’s a-going to trouble the water  
The Holy Ghost a-coming on me  
God’s a-going to trouble the water

**“Swing Low Sweet Chariot” Verse 1**

I looked over Jordan, what do I see,  
Coming for to carry me home.  
A band of angels coming after me,  
Coming for to carry me home

**“Pyramid Song” Yorke’s Verse 1**

I jumped in the river, what did I see?  
Black-eyed angels swam with me  
A moon full of stars and astral cars  
And all the figures I used to see

Yorke borrows from John and Alice Coltrane’s musical spirituality, “Wade in the Water” an African-American spiritual, and a passage from Herman Hesse. The following passage from Herman Hesse’s *Siddhartha* appeared on Radiohead.com in April 2001.

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<sup>62</sup> Kodwo Eshun, “The A-Z of Radiohead,” Culture Lab, 2001.  
<http://www.geocities.ws/italianradioheadfanclub/TheBritishCouncil.html>.

They all became part of the river. It was the goal of all of them, yearning, desiring, suffering; and the river's voice was full of longing, full of smarting woe, full of insatiable desire. The river flowed on towards to its goal. Siddhartha saw the river hasten, made up of himself and his relatives and all the people he had ever seen. All the waves and water hastened, suffering, towards goals, many goals, to the waterfall, to the sea, to the current, to the ocean and all the goals were reached and each one was succeeded by another. The water changed to vapour and rose, became rain and came down again, became spring, brook and river, changed anew, flowed anew. But the yearning voice had altered. It still echoed sorrowfully, searchingly but other voices accompanied it, voices of pleasure and sorrow, good and evil voices, laughing and lamenting voices, hundreds of voices, thousands of voices...

Like John Coltrane, Hesse's influence as a pantheistic structuralist combining multiple source for an individual expression of spirituality seems to direct this lyrical construction. According to Eberhard Ostermann, Hesse combines multiple religions with the modern novel format (or pop song form in Yorke's case) to confront isolated individualism and a new collective plurality driven by the modernization.<sup>63</sup>

### **Intertextual Lyrics**

Yorke's verse is an inter-textual conversation referencing American spirituals, Dante's *Inferno* ("black eyed angels"), and the *Tibetan Book of the Dead* ("figures I used to see"), which he was reading before the premiere of "Pyramid Song," at the Freedom Tibet Concert in 1999. According to journalist Tom Moon, "He revised constantly, working to evoke otherworldly moods rather than tell conventional stories."<sup>64</sup> Through moods rather than doctrine, multiple religions can intermingle.

Hesse's spiritual structural collage of religions seems to have influenced Radiohead's patchwork assembly of jazz musical influences in "Pyramid Song," as the band unites phrases

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<sup>63</sup> Eberhard Ostermann, *Herman Hesses Siddhartha. Einführung und Analyse*. CreateSpace Independent Publishing Platform. 130.

<sup>64</sup> Tom Moon, "Radiohead: Companion to 'Kid A' session," *Philly.com*, June 3, 2001, accessed April 10, 2016, [http://articles.philly.com/2001-06-03/entertainment/25324527\\_1\\_1997-s-ok-computer-amnesiac-thom-yorke](http://articles.philly.com/2001-06-03/entertainment/25324527_1_1997-s-ok-computer-amnesiac-thom-yorke).



drawn from Jimmy Garrison, Elvin Jones, Alice Coltrane, and Olivier Messiaen. The band's penchant for inter-textual conversations across racial lines with lyrics from the African-American diaspora has been seen before in conversation with Armstrong through "No Surprises," and will be revisited in a later analysis of "We Suck Young Blood" by Charles Mingus. In an interview with Tom Moon, Yorke seems to support the notion that he writes with an inter-textual process, assimilating multiple sources, stating, "I was constantly hearing all the other things that could be said."<sup>65</sup> Challenged to process multiple voices, much like John Coltrane's consolidation of many religions into free jazz, Yorke finds clarity through surrender to chaos or chance. Yorke continued by stating: "I simply cut them up, put them into a hat and then shuffled them around. That was really cool because...I managed to preserve whatever emotions were in the original writing of the words but in a way that it's like I'm not trying to emote."<sup>66</sup>

Yorke's lyrics and melody do not point straight to ancient Egypt, but rather point to Egypt through Alice Coltrane's African mysticism affected by African-American spirituals. Journalist Tim Baker from *The Guardian* asked Yorke about spiritual possession. Yorke recalled school, and an influential moment:

**Baker:** Something not far from speaking in tongues or old-fashioned notions of prophecy?

**Yorke:** I'd learned about all that in art college and I was really into it, but to find someone in the music world who was so focused on that kind of experience was a huge formative thing for me. People might still say, 'What's he on about?' But that is the kind of lyric writing that matters. To me anyway.<sup>67</sup>

"Pyramid Song" responds to multiple spiritual texts, using practices common in much of the African-American culture, including syncretism and spiritual possession in concert.

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<sup>65</sup> Ibid.

<sup>66</sup> Baker, 2009, 142.

<sup>67</sup> Tim Adams, "Thom Yorke: 'If I can't enjoy this now, when do I start?,'" *The Guardian*, February 23, 2013, accessed April 11, 2016, <http://www.theguardian.com/music/2013/feb/23/thom-yorke-radiohead-interview>.

## Metric Disruption

Jonny Greenwood appears to have applied a Messiaen inspired rhythmic palindrome, most likely from *Quatre études de rythme* (Four Rhythm Studies) written for piano to a bass line from Alice Coltrane's "Blue Nile" ([link](#)).<sup>68</sup> My interpretation of the structure in this song combines Ed O'Brien's online diary with Jonny Greenwood's interest in Messiaen's rhythmic techniques in *Quatre études de rythme*, which he was practicing on piano at the time.<sup>69</sup> Writing in his online recording session diary, O'Brien leaves a significant reference that suggests to me that Jonny Greenwood recomposed the original modal jazz bass line drawn from Alice Coltrane's "Blue Nile":

29/2/00 I froze up upstairs after Nigel has done a good mix of "Egyptian song". pick up on "I will" downstairs... Jonny plays some cool organ on it. trying to do some rhythm stuff on it.<sup>70</sup>

Radiohead's Phrygian ostinato and jazz drum set interaction in "Pyramid Song" ([link](#)) at 2:07 matches the general clave and interaction of the beginning of Coltrane's "Blue Nile," both pieces are derived from the same bass and drum rhythmic pairing.<sup>71</sup> Where Ron Carter and Ben Riley keep listeners guessing with unexpected accents, Radiohead's grouping of eighth notes over an extended and syncopated four bar phrase also prevents metric entrainment. Radiohead prevents pattern recognition using a long pattern, where Alice Coltrane's ensemble uses improvisation.

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<sup>68</sup> It is also important that O'Brien mentions "Kinetic," which I will show later to be built on "Miles Runs the Voodoo Down."

<sup>69</sup> Messiaen's *quatre etudes de rythme* was dedicated to the music of New Guinea. Which was also modeled in *Packt Like Sardines*, the opening composition of this album.

<sup>70</sup> Ed O'Brien, "Ed's Diary," Entry from February 29, 2000, *Green Plastic*, accessed April 10, 2016, <http://www.greenplastic.com/coldstorage/articles/edsdiary/>.

<sup>71</sup> Radiohead, "Pyramid Song," *YouTube*, accessed April 10, 2016, <https://www.youtube.com/watch?v=zbKQPqs-cqc>.

**Example 2.11** – Beginning of “Blue Nile” by Alice Coltrane

The image shows a musical score for the beginning of "Blue Nile" by Alice Coltrane. It consists of two staves. The top staff is for Ron Carter (bass) and the bottom staff is for Ben Riley (piano). Both staves are in the key of D major (one sharp) and 4/4 time. The bass line features a modal jazz line with eighth notes and a triplet. The piano accompaniment features a ten-note palindrome (33433) in eighth notes.

“Pyramid Song,” has a modal jazz bass line, played on acoustic bass and piano, but injected with a ten-note palindrome constructed of two phrases with a structure of groups of eighth notes (33433) each.

**Example 2.12** – “Pyramid Song” piano sequence

The image shows a musical score for the piano sequence of "Pyramid Song" by Radiohead. It is a single staff in the bass clef, in the key of D major (one sharp) and 4/4 time. The sequence consists of eighth notes in a 64976 rhythm pattern.

Additionally, the chord progression above the rhythm functions *like* a separate Messiaen row of duration, dislodging a listener’s prediction of the basic rhythmic palindrome. The chord progression moves in eighth note groupings of 64976. Greenwood seems to invoke two of Messiaen’s techniques simultaneously with Phrygian planing from Coltrane, to suspend time in their own *Quatuor pour la fin du temps* above. In a 2014 interview, Greenwood elaborated on his relationship to the music of Messiaen:

But Messiaen was my first connection to classical music. He was still alive when I was 15, and for whatever reason I felt I could equate him with my other favorite bands – there was no big posthumous reputation to put me off. So I’m still very fond of writing things in the same modes of limited transposition that he used. Indeed, am using them in a couple of the new pieces.<sup>72</sup>

<sup>72</sup> Chris Woolfrey, “Exit Music (for a Film) Jonny Greenwood of Radiohead Interviewed,” *The Quietus*, February 18, 2014, accessed April 10, 2016, <http://thequietus.com/articles/14514-jonny-greenwood-radiohead-interview>.

## Harmonic Replication

This chord progression is the subject of much music theory debate, including one discussion by Professor Nathaniel Hesselink of the University of British Columbia, posted to *Music Theory Online*. According to Hesselink, many classical music theorists assign the origin of “Pyramid Song” to an Andalusian Phrygian tonality from Spain.<sup>73</sup> However, there is no evidence that Radiohead learned Phrygian modes from an Andalusian album. Music theorist, Brad Osborn from The University of Kansas hears a Messiaen ancestry, but this lineage seems only partially complete:

When I hear the ondes Martenot part enter, my mind first registers something like <this is Greenwood’s favorite instrument>, then I go to “Greenwood loves the ondes Martenot because of Messiaen’s use of it in the *Turangalila Symphony*”, and then my mind becomes stuck on Messiaen for a while. Once I find myself pondering Messiaen, I hear the pitches in the ondes Martenot part as one of his modes of limited transposition—in this case, a subset [679t] of the octatonic collection.<sup>74</sup>

Radiohead has acknowledged playing along to Alice Coltrane’s albums including *Journey in Satchidananda*. The last track on *Journey in Satchidananda* is “Isis and Osiris,” which I analyzed as an open twelve-minute G Phrygian modal composition. In this case, Radiohead’s Phrygian education could possibly be attributed to Alice Coltrane or John Coltrane’s “Olé.”<sup>75</sup> Additionally, I connect their mention of John Coltrane with George Varga from *JazzTimes* to Coltrane’s “Olé” through this harmonic rhythm played by pianist McCoy Tyner in the example above. Radiohead used an identical chord progression with similar harmonic rhythm the year before in the Intro to “Everything in its Right Place,” from *Kid A*.

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<sup>73</sup> Nathan D. Hesselink, “Radiohead’s ‘Pyramid Song’: Ambiguity, Rhythm, and Participation,” *Society for Music Theory* 19, no.1 (2013).

<sup>74</sup> Brad Osborn. “Kid Algebra: Radiohead’s Euclidean and Maximally Even Rhythms.” *Perspectives of New Music*, 52(1), 81–105.

<sup>75</sup> In other published academic writing, Penderecki is often over credited for string arrangements that are clearly modeled after Alice Coltrane’s arrangements.

**Example 2.13** – Harmonic Rhythm of John Coltrane’s “Olé” at 1:04

JOHN COLTRANE’S “OLE” HARMONIC RHYTHM

Brent DiCrescenzo from Pitchfork who heard “Olé” in “Pyramid Song” in 2001 also supports the possible Coltrane source of Phrygian.<sup>76</sup> Of course “Pyramid Song” and “Olé” are from a common Andalusian ancestry, but ignoring jazz lineage risks the deracination of black history.

**Melodic Mirroring through Tritonic and Linear Expansion**

The melody structure of “Pyramid Song” makes the Coltrane album lineage through “Blue Nile” even clearer. The first phrase of Yorke’s melody is a clear F#- pentatonic, and he leaps to the 4th degree with the same construction as Pharaoh Sanders and Joe Henderson’s alto flute unison melody on “Blue Nile.”

**Example 2.14** – “Pyramid Song” first phrase

(phrygian accomp: F# G A triads)

\* linear tonal expansion \* question

scale degree: 1 4 5

tritonic grouping 1

<sup>76</sup> Brent DiCrescenzo, “Radiohead: *Kid A*,” *Pitchfork*, October 2, 2000, accessed April 10, 2016, <http://pitchfork.com/reviews/albums/6656-kid-a/>.

**Example 2.15** – Alice Coltrane’s “Blue Nile” first phrase

\* = linear tonal expansion

MINOR PENTATONIC BLUES

tritone grouping 1

Inside the pentatonic system, Yorke and Sanders/Henderson clearly both begin their performances in reference to jazz specific tritonic scale noted in Shawn Purcell’s thesis analysis of guitarist Peter Bernstein’s improvised solos.<sup>77</sup> Berklee professor Hal Crook’s definition of the tritonic scale creates specific expectations: “A tritonic scale is comprised of three different notes arranged in ascending order from a root note to its octave. Exceptions include triad forms, triad inversions, and structures comprised of intervals, which would render the scale impractical for use in performance.”<sup>78</sup>

Saxophonist and leading jazz educator Jerry Bergonzi defines the tritonic with increased specificity and exclusion of probability as a “very common three-note grouping which is 1,4,5”—pointing directly to Yorke modeling Sanders.<sup>79</sup> In the tradition of the jazz common practice with tritonics, both Yorke and Coltrane’s melody develop their motif shape by moving to other intervals of the composite Dorian scale. Yorke will also superimpose Dorian and F# minor pentatonic to avoid the minor 9th in the melody. Yorke and Sanders play the same pentatonic, and both avoid filling in the Phrygian scale heard clearly in the other instruments. This neutrality by avoiding the dissonant b2 in the scale creates a bright, lifting, or transcendent effect for the soloists staying above the ensemble comping. In the example below from the song

<sup>77</sup> Shawn Purcell, *An Analysis of Traditional and Modern Devices in the Improvised Solos of Peter Bernstein* (DMA Thesis, University of Illinois, 2011), 72.

<sup>78</sup> Hal Crook, *How to Improvise: An Approach to Practicing Improvisation* (Rottenburg, Germany: Advance Music, 1991), 170

<sup>79</sup> Jerry Bergonzi, *Inside Improvisation Series, vol. 6, Developing a Jazz Language* (Rottenburg, Germany: Advance Music, 2003), 126.

“Journey to Satchidananda,” Pharoah Sanders’s solo is representative of the modal practices of gradual linear development of the scale, question and answer, tritonic grouping, and flexible modes.

**Example 2.16** – Pharoah Sanders solo on “Journey to Satchidananda”

\* linear tonal expansion

The musical notation consists of three staves in 6/4 time, key of D major. The first staff shows a 'question' phrase (E- to G#) and an 'answer' phrase (G# to E-), with a 'question' phrase following. Annotations include 'tritone grouping' (E-G#), 'tritone' (G#-E-), and 'tritone' (E-G#). Scale degrees are marked as 1, 5, 4, 3. The second staff shows an 'answer' phrase (G# to E-) and an 'answer punctuated' phrase. Annotations include 'tritone' (E-G#), 'tritone' (G#-E-), and '\* (aeolian)'. The third staff shows a 'question embellishment' phrase and an 'answer' phrase. Annotations include '\* (dorian cadence before return to phrygian)' and 'tritone' (E-G#).

Yorke’s leaping 4ths and ascending step form a Coltrane derivative cell traceable through Sanders to the practice of John Coltrane’s *Love Supreme*. This phrase by Yorke recalls John Coltrane’s spiritual development using tritonic expansion to gradually unfold the mode by growing into an aggregate scale.

In “Pyramid Song,” the same formulas are followed. The first phrase begins with a repeated exposition of the notes F#, B, and C#. It is an opening question in text and melodic structure, akin to Sanders. Yorke gradually opens the cell, adding more notes to complete the composite F# minor hexatonic. Using question and answer phrases, the hexatonic group is explored through tritonic subgroups and completed with the last G# from F# Dorian, at the end

of the sixteen-measure verse. It is identical in process to the melody of “Blue Nile,” which completes E Dorian with F# on the last note.<sup>80</sup>

**Example 2.17** – “Pyramid Song” showing linear tonal expansion, tritronics, and question/answer system

(phrygian accomp: F# G A triads)

\* linear tonal expansion \* question

scale degree: 1 4 5

tritone grouping 1

\* answer

tritone grouping 2

question

tritone grouping 1

answer

tritone grouping 3

\* (dorian cadence before phrygian return)

In the Intro, Interlude, and Outro, Yorke further defines this scale segregation between soloist (hexatonic) and accompaniment (Phrygian). Like Sander and Henderson on flutes in the Interlude below from “Blue Nile,” Yorke mixes modes, switching from Dorian to Phrygian between Verse and Interlude.

<sup>80</sup> Yorke never sings the D# from the usual 7 note F# Dorian, hence the hexatonic Dorian aggregate.



### Example 2.18 – “Blue Nile” Interlude (0:53)

Interlude (dorian cadence before phrygian return)

tritonic grouping 3 morph: F# replaces D

(phrygian)

tritonic morph: F replaces F#

When Yorke switches back to a soloist role in the Verse at 2:42, the band follows suit, with an accommodating E7 below the cadential G# at the end of the Dorian melody. This skillful exception to the Phrygian ostinato planing is allowed only at the end of the two verses. This phrase by Yorke could have ended with a b2 to 1 resolution in Phrygian, but it would not be characteristic of the practice on “Blue Nile” or “Journey in Satchidananda.” Additionally, at 1:48 Jonny Greenwood also orchestrates a Phrygian modal melody in octaves with strings, using an Alice Coltrane technique, which will be used later in “Dollars and Cents.”

In a 2001 interview for *Amnesiac*, Yorke recalls a noteworthy difference between *Amnesiac* album with the previous *Kid A* album in 2000. “The stuff on *Kid A* went together and made sense. The other stuff was more like fragments, and difficult to make sense of.”<sup>81</sup> In this context, it makes sense that Mingus’s claps on two and four were removed, as they would be too metric specific, clarifying the metric ambiguity established by the combined Messiaen palindrome and row.

Radiohead’s description of Egypt is adorned with two patterns from Messiaen, but primarily built from structures, rhythms, scales, and tropes common in African-American music.

<sup>81</sup> Thom Yorke, MTV Interview, 2001 <https://www.youtube.com/watch?v=xR4RSdWTtbE>.

In a 2001 interview, Yorke reflects on his feelings while recording “Pyramid Song.” He said, “In the end you can’t explore, you can’t be creative because that identity thing is getting in the way.”<sup>82</sup>

By reaching towards Alice Coltrane’s model, Yorke sheds identity and restraint, which he mentioned with concern. By emulating an external ensemble, the band additionally adopts new tonalities, melody structure, phrasing and orchestrations from Alice Coltrane. In the next example, “Dollars and Cents,” Coltrane spirituality comes into full bloom.

### **Alice Coltrane in “Dollars and Cents”**

In “Dollars and Cents,” Radiohead again develop intertextual lyrics, melodic mirroring, and textural replication based on Alice Coltrane’s version of “A Love Supreme.” The lyrics respond to Swami Satchidananda on Coltrane’s recording in timed phrasing and specific content. The string melody in the chorus mirrors Alice Coltrane’s Love Supreme motif, and Johnny Greenwood uses Coltrane’s specific orchestration techniques to create a parallel texture. Playing “A Love Supreme” and “Dollars and Cents” revealed a consistent relationship. As explained by Colin Greenwood,

I played other people’s records over the top of what we recorded and then said ‘oh, it should sound like that’, on the Pro Tools or whatever. I took this Alice Coltrane record and played it over the top of a song called ‘Dollars and Cents’, which is on the next record, and Jonny wrote this beautiful string arrangement, that is sort of Coltrane style, it is the backing for it...<sup>83</sup>

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<sup>82</sup> Sook-Yin Lee, “Interview with Thom,” *Much Music*, May, 2001, accessed April 11, 2016, <http://citizeninsane.eu/t2001-04MuchMusic.htm>.

<sup>83</sup> “Interview with Jonny & Colin,” *Citizeninsane.eu*, accessed April 11, 2016, <http://citizeninsane.eu/t2001-01-20MixingIt.htm>.

Here, bassist Colin Greenwood is referring to Alice Coltrane's version of John Coltrane's "A Love Supreme"—"it was the one with the incantation."<sup>84</sup> In comparing all possible albums, the version of "A Love Supreme" on *World Galaxy* recorded for Impulse by Alice Coltrane in 1972 is the only composition on the album that has a spiritual incantation. For this example, I lined up the "A Love Supreme" and "Dollars and Cents," in Logic audio software.

### **Intertextual Lyrics**

The vocals of Yorke and Swami Satchidananda form a perfect counterpoint. Yorke's phrase "be constructive" lines up with Satchidananda's "it is constructed," suggesting that Radiohead might have played along to "A Love Supreme." Harmonically, "A Love Supreme" is an F#6/9 rubato pedal that works fairly well over the B major beginning of "Dollars and Cents," creating upper extensions. When "Dollars and Cents" moves to B minor and G, the two tracks become slightly incompatible, suggesting that Radiohead used "A Love Supreme" as a starting point, but not an absolute model as in "National Anthem."

Yorke's lyrics, as in previous examples, appear to be in sympathetic conversation with the opening incantation of Indian Yogi, Swami Satchidananda.

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<sup>84</sup> Ibid.

Swami Satchidananda in “A Love Supreme”

Love. Love is a sacred word.  
Love is the name of God.  
The entire universe is created with love  
By love, and in love.  
Love is the beginning.  
Love is the continuation.  
Love is the end.  
Love for love’s sake is divine.  
It is constructed. It is beautiful  
It brings peace. It brings harmony. It brings Joy  
To the lover and the loved.  
But if love is based on selfishness, it can go  
easily.  
The very same love brings destruction.  
Peace and harmony is based on love when used  
properly by a selfless mind for the benefit of  
the humanity.  
Love knows no business.  
Love knows no bargains.  
Love never expects anything in return...

Thom Yorke in “Dollars and Cents”

There are many things to talk about  
Be constructive  
There are weapons we can use  
Be constructive with your blues  
Even when it's only warnings  
Even when you talk the war games  
Oh why don't you quiet down?  
Maybe I want peace and honesty  
Why don't you quiet down?  
  
Maybe I want to live in the children's land  
And you know maybe, maybe I  
Why don't you quiet down?  
Maybe I'll wander the Promised Land  
I want peace and honesty  
Why don't you quiet down?  
I want to live in the Promised Land  
And maybe wander the children's land  
Quiet down! Yeah, and there, there we can free  
  
You don't live in a business world and  
You never go out and you never stay  
We won our goals in a liberal world  
Living in times when I could stand it, babe  
Quiet down  
We are the dollars and cents and the pounds and  
pence and the mark and the yen, and yeah  
Why don't you quiet down?

## Textural Replication

“Dollars and Cents” is an eight-measure mixed modal composition alternating between B major and E-7, with a B-7 ostinato in the bass. Here, Radiohead seems to invoke Alice Coltrane’s practice of modal mixture on *World Galaxy* and *Journey in Satchidananda* where upper extensions or modes change fluidly between Dorian, Phrygian, Locrian, or altered dominant. The modal accompaniment chords in “Dollars and Cents” remain stable, but the chorus implies b13 over the B major chord, which is above the B-7 pedal.

**Example 2.19** – “Dollars and Cents” string pentatonic melodies orchestrated in octaves (3:00)

The image shows a musical score for two staves, treble and bass clef, in the key of B major (indicated by four sharps). The time signature is 4/4. The first staff is labeled with a chord symbol  $B\Delta$  above the first measure and  $E-7$  above the fifth measure. The melody consists of eighth and quarter notes, with some notes beamed together. The second staff is an octave lower, mirroring the melody in the first staff. The notes in the second staff are highlighted in red.

The bass ostinato of Reggie Workman in “A Love Supreme” uses John Coltrane’s motif from “Acknowledgement,” and Colin Greenwood’s bass line above implies the same pentatonic motif in the second half of his phrase, while drummer Phil Selway plays an analogous swinging eighth note pattern on the ride cymbal. In the example below, Jonny Greenwood orchestrates the interlude in Alice Coltrane’s tradition of strings in octaves playing pentatonic melodies over the bar line.

In the example below, Greenwood again orchestrates with Alice Coltrane’s pentatonic string voicings, which is often mistakenly attributed as a technique from composer Penderecki’s work. Greenwood also uses Alice Coltrane’s technique of strings trilling in whole steps based on pentatonic voicings below. If this example had been modeled after Penderecki’s string orchestrations, it likely would not be pentatonic.

**Example 2.20** – Jonny Greenwood’s pentatonic clusters in “Dollars and Cents” (1:20)

The image shows a musical score for a single staff in treble clef, in the key of B major (indicated by four sharps). The time signature is 4/4. The staff is labeled "STRINGS" at the beginning. Above the first measure is a chord symbol  $B\Delta$  and above the fifth measure is  $E-13$ . The notation shows a melodic line in the first half of the piece, followed by a series of dense, multi-note clusters in the second half, which are characteristic of pentatonic voicings.

## Melodic Mirroring

Alice Coltrane's "A Love Supreme" appears to have directly influenced the chorus melody of Radiohead's "Dollars and Cents." In eulogy, Alice Coltrane quotes her departed husband's chanted Love Supreme motif from "Acknowledgement," transposing the pentatonic shape up to the 6th degree, implying a lifting motion, or ascension to the 9th.

**Example 2.21** – Alice Coltrane's transposition of John Coltrane's Love Supreme motif

Returning to Radiohead, Colin Greenwood's bass line plays the cell (F#, A, B) in the second measure of his ostinato, which is also heard throughout the second half of Alice Coltrane's "A Love Supreme." Using Alice Coltrane's orchestration on the chorus section, the unison vocals and strings play an inverted variation (D#, F#, G) on Coltrane's "A Love Supreme" cell (D#, F#, G#), lowering the G# to G at the beginning of the chorus. Using the lyrics, "Why don't you quiet down? I want to see the Promised Land," Yorke confronts multinational corporations with an expression of Coltrane spirituality. Singing over the bar line with the Coltrane cell variation suggests a higher level of an internalized practice.

**Example 2.22** – "Dollars and Cents" chorus (3:48), vocals and strings unison over bass

## The Ink Spots in “You and Whose Army?”

In interviews after the release of the album *Amnesiac* in 2001, Radiohead often recounted their motivations that led them back to jazz for authenticity and nostalgia. In talking to Nick Ken, Yorke said, “We had this whole thing about *Amnesiac* being like getting into someone’s attic, opening the chest and finding their notes from a journey that they’d been on. There’s a story but no literal plot so you have to keep picking out fragments. You know something really important has happened to this person that’s ended up completely changing them, but you’re never told exactly what it is.”<sup>85</sup>

As shown in the example below, the band turns to the nostalgic sound of the jazz vocal group The Ink Spots. The Ink Spots were a touring group from the 1930’s and 1940’s who often backed up singers including Ella Fitzgerald. In “I Don’t Want to Set the World On Fire” from 1941, The Ink Spots’ background vocals descend in chromatic motion using a glissando, similar to voice leading and style of Radiohead’s “You and Whose Army.”<sup>86</sup>

### Example 2.23 – “I Don’t Want to Set the World On Fire” first verse by The Ink Spots

I DON'T WANT TO SET THE WORLD ON FIRE

Their characteristic humming glissandi are often considered a precursor to Doo Wop, mentioned by later groups including The Drifters and The Orioles, and are used here for a sense of nostalgia and history. In their 2001 interview with George Varga, Radiohead mentioned The Ink Spots as an influence during the recording sessions for *Amnesiac*.

<sup>85</sup> Baker, 2009, 158.

<sup>86</sup> The Ink Spots, “I Don’t Want to Set the World On Fire,” *YouTube*, accessed April 10, 2016, [https://www.youtube.com/watch?v=6l6vqPUM\\_FE](https://www.youtube.com/watch?v=6l6vqPUM_FE).

**Example 2.24** – Background vocals on “You and Who’s Army?”



In this brief jazz model, Yorke records The Ink Spot’s unique parallel sliding harmonies in an extended series of ii V7 progressions. In jazz, this chord sequence is often referred to as playing “around the horn,” a more complex progression than the ii7 V7 pattern used in “No Surprises.” My research shows that this model is also drawn from The Inks Spots practice more than a specific song, suggesting a thorough awareness of their techniques rather than an isolated lift from one song.

**Louis Armstrong in “Life in a Glasshouse”**

In “Life in a Glasshouse,” and the following composition “Kinetic,” Radiohead begins to show a transition towards synthesis of jazz practices that will be presented in chapter 3. The melodic material of Joe Zawinul’s Rhodes on Bitches Brew is returned to, but evolves into a clarinet orchestration. “Life in a Glasshouse” replicates the texture of a New Orleans funeral procession, but doesn’t appear to have an exact model as I expected. Instead, this song evolves from a grunge ballad origin in 1997 to a cortege in 2001. At the end of this middle period, “Glasshouse” sounds entirely different than their electric jazz modeling in 1997 on *OK Computer*. In 2001, after years of frustration with their grunge ballad “Life in a Glasshouse,” Jonny Greenwood reached out to acclaimed jazz musician Humphrey Lyttleton. In a letter to Lyttleton, Greenwood writes, “It’s probably an awful cheek and we’re sure you’re very busy, but we’re a bit stuck.”



In 1997, “Life in a Glasshouse” was not yet conceived as a jazz model. Thom Yorke talked to *Select Magazine* during the song’s early stages.

**Q:** How many songs have you written since *OK Computer*?

**A:** About eight or nine maybe. “Life In A Glasshouse” is one of those. I don’t know how to do it, though. It could end up sounding like a bad Cure song, or it could end up sounding brilliant. It’s difficult to tell.<sup>87</sup>

The band appeared to struggle with the song’s direction for years. *Select Magazine* described the sound check on tour in Spain: “Thom is handed his black acoustic guitar, and he begins to play a song that lies somewhere between “Exit Music” and “Climbing Up The Walls.” ‘Once again,’ he sings, ‘I’m in trouble with my only friend/She’s been smashing up my house again...living in a glass house’.”<sup>88</sup>

In the 1998 documentary, *Meeting People is Easy*, filmmaker Grant Gee interviews Colin Greenwood backstage, while Yorke can be heard composing fragments for “Life in a Glasshouse” on stage ([link](#)). The following day, Yorke talked to *Select Magazine*:

It’s sort of called “Life in A Glass House,” I think, Thom says the following day. Bits of it have been kicking around for a while. It’s not really done at all. But we won’t finish it on the road. You can’t. When you’re at a sound check, you’ve got people watching you, and you can’t really do what you want. It doesn’t work.<sup>89</sup>

In Gee’s video of Radiohead rehearsing, Jonny Greenwood seems to return to Joe Zawinul’s arpeggios on *Bitches Brew*, working on a G# augmented triad over A minor. He returns to the descending arpeggios on Rhodes keyboard that worked for “Subterranean Homesick Alien.” In this transcription below, Greenwood seems to work out the new melody. In this clip he plays a G# augmented triad, which would be altered in Jimmy Hastings clarinet performance three years later. In this clip transcription above (at 3:00 in the link below), the original iteration ascends to the note D over G minor. In Hastings recording this will be changed

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<sup>87</sup> Thom Yorke, “Renaissance Men” *Select Magazine*, January, 1998, 70-81.

<sup>88</sup> Jonny Greenwood, “Renaissance Men,” *Select Magazine*, January, 1998, 70-81.

<sup>89</sup> Ibid.

to a continuation of the C pedal. In this video, the rhythm section is twice as fast, making the chords twice as long compared to the traditional jazz arrangement in the final version. What begins here (at 3:00 in the link below), as a psychedelic arpeggio, like *Bitches Brew* or “Subterranean Homesick Alien,” will be transferred to Jimmy Hastings jazz clarinet in the studio two years later ([link](#)).<sup>90</sup>

**Example 2.25** – Jonny Greenwood on Rhodes in rehearsal from *Meeting People*, documentary

JONNY GREENWOOD ON RHODES

The image shows three staves of musical notation for Jonny Greenwood on Rhodes. The first staff begins with a treble clef and a key signature of one sharp (F#). The first measure is marked with a handwritten chord 'A-Δ7' and contains a series of eighth notes. The second staff continues with a handwritten 'C-' chord and features a series of eighth notes with a slur over the first two notes. The third staff continues with a handwritten 'G-' chord and features a series of eighth notes with a slur over the first two notes. The final measure of the third staff is marked with a handwritten 'F#0' and contains a series of eighth notes.

Backstage in 1997, Colin Greenwood expressed a moment of frustration with “Life in a Glasshouse” while Greenwood is notating the new counterpoint keyboard arpeggios on stage: “I hate it, I used to really like doing this piece, but I really hate it now. I don’t hate it. But it’s like. Get really incoherent... No I’m sorry. I don’t hate it, it’s not true.”<sup>91</sup> As the sound check reassembled into an ensemble, drummer Phil Selway added a basic jazz swing pattern to the newly added keyboard arpeggios.

Three years later, Radiohead invited English jazz legend Humphrey Lyttleton and his band to play on the dual album session. Jonny Greenwood had previously booked Lyttleton as a

<sup>90</sup> Radiohead, “Life in a Glasshouse early (Meeting People Is Easy),” *YouTube*, accessed April 10, 2016, <https://www.youtube.com/watch?v=4qDSVIfXqIE>.

<sup>91</sup> *Radiohead: Meeting People Is Easy*, documentary, directed by Grant Gee (United Kingdom: Parlophone, 1998), VHS.

campus performer during his time as a student at Cambridge. An English legend in jazz, Lyttleton was best known for his #1 jazz instrumental crossover hit *Bad Penny Blues* from 1956, which had previously been modeled by Paul McCartney for “Lady Madonna.” Another video of Radiohead practicing “Life in a Glasshouse” a year later on a sound check in 1998 confirms that the song was still an apathetic grunge ballad before it was restructured into a New Orleans cortege for *Amnesiac* in 2001. Clarinetist Jimmy Hastings’s performance of the arpeggio, clarifies the C soprano pedal by deleting the high D. He drops to A at the bottom of the A minor major 7th chord instead of G#, and starts the phrase at the beginning of the measure in half time. On the last chord he avoids conflict with the vocal melody by dropping to a lower register whole note.

**Example 2.26** – Jimmy Hastings clarinet melody (2:15) in “Life in a Glasshouse”

Speaking with Hastings (full interview in Appendix C), he remembered that someone from Radiohead wrote out the clarinet part, showing that it had intentionally evolved away from the original version:

**Carney:** On the second half of the song, you play some descending arpeggios that change through the chord progression starting with A minor and going to C minor (concert) Did they give you any written music or chord progressions to follow, or how did you come to record those arpeggios?

**Hastings:** I think, on reflection, the parts were written by one of the Radiohead musicians as I remember struggling with some of it and this could well have included that A natural minor you mentioned.

Humphrey Lyttleton relayed Radiohead's drive for authenticity in an interview with *Q Magazine*. According to Lyttleton, Radiohead "didn't want it to sound like a slick studio production but a slightly exploratory thing of people playing as if they didn't have it all planned out in advance."<sup>92</sup>

Several aspects tie together into a web of exterior factors that support this jazz inspired production. The trumpet, trombone, and clarinet play in the standard New Orleans polyphonic style, in an ensemble tribute to the standard practice. Humphrey Lyttleton articulates the melody with the phrasing of Louis Armstrong, known in New Orleans during his youth as "downtown" or "gutbucket" blues phrasing. Jimmy Hastings on clarinet shadows Lyttleton in the sophisticated and graceful "uptown" Creole embellishment tradition of Johnny Dodds. Pete Strange, Lyttleton's trombonist, follows suit with a lower counter-melody in the "tailgating" practice pioneered by a "crosstown" Creole musician, Kid Ory.<sup>93</sup>

**Carney:** In general, you and Pete Strange seem to improvise in the second half of the phrases to stay out of the way with the Thom Yorke's vocals? Was this rehearsed or just intuitive?

**Hastings:** A bit of both, I think.

The trumpet plays the melody, accompanied by the lower trombone, and obligato clarinet. When Yorke enters in the ninth measure, he replaces the trumpet as the primary melody above the clarinet and trombone in a symmetrical orchestration structure to "St. James Infirmary" as recorded by Cab Calloway and Louis Armstrong in 1933. I asked clarinetist Jimmy Hastings from Radiohead about the overall structure.

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<sup>92</sup> Humphrey Lyttleton, "Radiohead Recruits New Member," *Q Magazine*, April, 2001, 21.

<sup>93</sup> John McCusker, author of *Creole Trombone*, conversation about New Orleans polyphony at Kid Ory's house, 8/20/12. In conversation with McCusker, Kid Ory was one of the first musicians to move between Black and Creole bands in different neighborhoods.

**Carney:** How did the idea for the New Orleans procession come about? It kind of reminds me of Louis Armstrong's "St. James Infirmary" or "Minnie the Moocher." Were any songs or influences mentioned?

**Hastings:** The idea of the New Orleans procession was Humph's. He suggested it to them when they asked him to do the recording and they all thought it was a great idea.

The drum set is recorded from a room mic, giving the effect of a distant marching "second line" in the passing funeral procession. The closer trumpet, clarinet, and trombone are recorded at the bell of their horns to be close to Yorke's voice, the deceased corpse of this procession. Additionally, the dynamics and texture are divided into a binary form, suggesting symbolism of stationary mourning followed by procession. Hastings confirmed my analysis.

**Carney:** It seems like the song is divided into two parts. Like a service followed by a procession? Do you remember any structuring of the overall sound?

**Hastings:** I think this structuring, well observed by you, was Humph's idea as well.

The march begins after a two measure fermata at 1:48. Leading the procession at 1:48, Lyttleton enters on trumpet, in a Joe Oliver articulated fanfare reminiscent of Oliver's version of "West End Blues." The drums switch to a snare press roll for walking. The drum change raises the dynamic level and rhythmic pulse, creating a binary proportion in the style of "St. James Infirmary."

**Carney:** Something that's interesting to me is that the song feels like a New Orleans procession, but the horns are generally playing in A natural minor which gives it a dramatic and heavy sound. It's like a blues, but without the usual blues licks. The drums are definitely a blues march. It kind of reminds me of a dramatic Sidney Bechet arrangement. Any thoughts?

**Hastings:** As I remember struggling with some of it and this could well have included that A natural minor you mentioned. Sidney Bechet? Could be no more than coincidence.

Hastings is clearly being modest. He skillfully uses A natural minor, adding dominant enclosures of the A minor to enhance the chord progression.

**Example 2.27** – Hastings clarinet obligato (1:54) in "Glasshouse"

The image shows two staves of musical notation for a clarinet obligato. The first staff is labeled "JIMMY HASTINGS OBLIGATO AT 1:54" and "NATURAL MINOR". It features a treble clef, a 4/4 time signature, and a key signature of one flat. The melody begins with a triplet of eighth notes, followed by a series of eighth notes, and ends with a triplet of eighth notes. The second staff continues the melody, starting with a triplet of eighth notes, followed by a section labeled "DOMINANT ENCLOSURE" which includes a chromatic scale, and then a section labeled "NATURAL MINOR" which features a quintuplet of eighth notes. The notation includes various musical symbols such as beams, slurs, and accidentals.

From the interview with Hastings and the previous arpeggio recordings, two structural aspects become clear. The arpeggios evolved over time from Radiohead’s early rock ballad performance, changing in pitch and instrumentation. Radiohead turned to Lyttelton et al. as jazz structural models for advice on changing their song. It was Lyttelton’s idea to use the cortege as a model. Humphrey Lyttelton, Jimmy Hastings, and Pete Strange added their lines according to the New Orleans traditional structure.

Again, jazz structures informed Radiohead’s evolution out of rock. In “Glasshouse,” jazz is turned to after years of frustration with the song’s original texture.

**Teo Macero and Miles Davis in “Kinetic”**

My discovery of indisputable jazz structures in “Kinetic” inspired this dissertation. Like a fossil, the borrowed bass melody and drum pattern from “Miles Runs the Voodoo Down” stuck out of the texture of Radiohead’s “Kinetic,” a B-side from *Amnesiac*. From the patterns of jazz structural design here, I analyzed more compositions in support of my jazz structuralist theory as a defining practice in the studio techniques of Radiohead. When the two compositions are aligned, the interactive counterpoint between Miles Davis and Thom Yorke is more complex call and response than their early period. The band played along with their jazz models, converting

their influence. Here the bass melody, primary melody, drum pattern, and texture are all derivative variations that respond to “Miles Runs the Voodoo Down.” Like “National Anthem,” the structures develop in parallel shapes but are not identical.

Using the title “Kinetic” as a riddle, Radiohead reveals their modeling practice that has been presented throughout this dissertation. A definition of kinetic energy describes the potential energy in conversion between sources, or energy in motion. Radiohead does not duplicate “Miles Runs the Voodoo Down.” Through their headphones, the song is morphed it into “Kinetic.”

“Kinetic” was originally used only as a B side to support the single “Pyramid Song.” It did not appear on *Amnesiac* in 2001, but was used as an extra track for promo marketing in the UK and Japan. In 2009 after Radiohead had left EMI, “Kinetic” was released near the beginning of a two-CD *Amnesiac Collector’s Edition*. Although Radiohead never mentioned “Kinetic” in interviews, based on my research, it is both clearly derivative from “Voodoo” and an elegant creative expansion that puts Radiohead in their own distinctive category of modeling.

## **Background**

Initially, “Kinetic” (2001) seemed like an odd starting point for a clear jazz model, five years after they had started emulating Miles Davis in *OK Computer*. But in my research, I found out that the opening lyrics from “Kinetic” appear in promotional art created by Stanley Donwood for the EP single *Airbag* from *OK Computer* in 1997. It is plausible that this lyric in question from 1997, “Words on a gravestone. I waited but you never came,” refer to Yorke’s singing over an unapproved Miles Davis sample. This phrase will appear in the middle of the text when released in 2001.

Unreleased from this early jazz era in 1997, “Kinetic” continues to be important to the group. On Radiohead.com in 2000, “Kinetic” is mentioned in a gibberish blogpost, even though it had still not been released:

dapply sunlight from the trees planted 100 yrs ago/breese moves islands f snlight ver the clothes f th people lng dwn on the pavemenkinetic kinetic kinetic 1234567

“We’ve hit a few crops so far. It’s not much fun. It’s scary and physically hard work. You can lose your way in the dark and have to jump into ditches or nettle beds to avoid the police. i go...keep talking till the tape runs out. play back the tape until the story is finished

In 2000, “Kinetic,” is mentioned again in Ed O’Brien’s online studio diary, as they record for

*Kid A:*

Thursday, February 3<sup>rd</sup> 2000

bits and pieces are added to ‘kinetic’ - Phil sets up his electric kit triggering samples, it works well and could be the basis of an interesting backing track.

Tuesday, February 8<sup>th</sup> 2000

Nigel got what seems like a good mix of ‘dollars and cents’. more work on t+j’s drum thing. did some playing this afternoon. upstairs at the moment Nigel and Thom are doing ‘something’ to kinetic

When finally released, “Kinetic” opened with the taunting phrase, “You’re being took for a ride,” over the drum pattern played by Don Alias and the bass melody from Dave Holland. In the next section, I superimpose “Miles Runs the Voodoo Down” and “Kinetic” in Logic software. I hope to reveal deeper structural alignments, proving that Radiohead recorded “Kinetic” while listening to “Miles Runs the Voodoo Down” in their headphones, composing vocal, bass, drum, and structural counterpoint to Miles Davis’s band.



## Melodic Mirroring and Structural Alignment

In an interview for *Jazz Times*, Greenwood discusses the group's hesitation to discuss the influence of Davis on their music:

Discussing Miles makes you feel like a dime-store novelist talking about Shakespeare. We feel uncomfortable talking about Miles as any kind of influence, because what he did is so much greater and different than anything we do. We've taken and stolen from him shamelessly, not just musically, but in terms of his attitude of moving things forward.<sup>94</sup>

A comparison between “Kinetic” ([link](#)) by Radiohead and “Miles Runs the Voodoo Down” ([link](#)) by Miles Davis reveals a clear relationship. Both songs are in the key of F, Radiohead replicated a response to the drum pattern, and created a variation of the bass melody. Additionally, Radiohead uses background vocals to recreate the background bass clarinet and rhythm guitar using a vocoder. Using layers of riffs to create dynamics like *Bitches' Brew*, “Kinetic” relies on a cornerstone of the fusion era. What makes the relationship between these songs most compelling, beyond simple borrowing, is Radiohead's lead vocal line sung by Yorke, which internalizes the phrasing, intonation, suspended dissonance, and melodic style of Miles Davis's trumpet, but in a different musical language of rock.

“Kinetic” is derived from the bass line of “Miles Runs the Voodoo Down.” The graph below shows the relationship to Harvey Brooks' original bassline in “Voodoo.” After playing along to Brooks, the sample was most likely moved right as a loop, by one beat.

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<sup>94</sup> Varga, 2001, 26.

**Example 2.28** – Colin Greenwood’s bass line over Harvey Brooks’s bass line

This vocoder line below appears to be played over the riff of Harvey Brooks from “Miles Runs the Voodoo Down,” acting as a metric subdivision of the open space in the bass line.

**Example 2.29** – Vocoder synth line from “Kinetic” (0:00)

Don Alias remembers picking up a drum rhythm he heard in New Orleans that he used for “Voodoo.” Alias recounted playing this New Orleans street beat in the session for “Voodoo”:

“I had been practicing this drum rhythm while I was in New Orleans for Mardi Gras.”<sup>95</sup> When Miles heard him warming up, he told Alias to show Jack DeJohnette the pattern. But Alias eventually recorded the drumbeat, later in the session. In “Kinetic,” when the drums enter, Phil Selway must have played along with Don Alias’s drum pattern. Together, the drum set patterns below are reciprocating like the bass lines above in Example 2.28.

<sup>95</sup> Paul Tingen, *Miles Beyond: The Electric Explorations of Miles David, 1967-1991* (New York: Billboard Books, 2003), 76.

**Example 2.30** – Selway and Alias drum patterns comparison

The image shows two staves of musical notation. The top staff is labeled 'SELWAY' and the bottom staff is labeled 'ALIAS'. Both staves show a sequence of drum notes with stems and flags, indicating a complex, syncopated rhythm. Above the Selway staff, there are three instances of the word 'BELL' with arrows pointing to specific notes, suggesting a bell-like sound or a specific drum part. The notation includes various note values, rests, and dynamic markings like accents (>).

Later in the song, Selway’s accompaniment to Alias is tempo morphed with a sampler. Guitarist Ed O’Brien blogged online from the studio: “Jonny and I are let loose on fucking up Phil’s drum sound. Hours of fun as Coz might say. Starts off by Phil doing some drums on “Kinetic.””<sup>96</sup>

By playing along to *Bitches Brew* instead of sampling Miles Davis, Radiohead also creatively avoided copyright violation. The drum pattern is derivative, the chord progression is a variation, and the bass line is slightly modified by repeating two notes. The most interesting transfer in this “lifting” of *Bitches Brew* is in the vocalists phrasing which emulates Miles Davis’ trumpet in blunt phrasing. In a 2001 interview with *Slate* magazine, Yorke described his intent to “be an instrument.” On this album, this instrument seems to be the trumpet of Miles Davis. Yorke internalizes the phrasing, intonation, suspended dissonance, and melodic style of Miles Davis’s trumpet within a different musical language of rock. Yorke’s vocal imprinting makes the relationship between these songs more compelling than simple borrowing.

Aligning the tracks in Logic, the phrasing and development relationships become striking. Yorke seems to phrase in the spaces of Miles Davis. “Kinetic” returns to Zawinul’s Rhodes keyboard and synthesizers following the trajectory of “Miles Runs the Voodoo Down.” As both compositions develop, the dynamics and intensity increase at the same time.

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<sup>96</sup> O’Brien, 1999.

**Example 2.31** – Thom Yorke and Miles Davis Counterpoint by aligning “Kinetic” and “Voodoo”

The image shows a musical score with two staves. The top staff is labeled 'THOM YORKE ON "KINETIC"' and the bottom staff is labeled 'MILES DAVIS ON "VOODOO"'. The music is in 4/4 time with a key signature of three flats (B-flat, E-flat, A-flat). The score is divided into measures, with measure numbers 36, 39, and 41 indicated. The lyrics for Miles Davis are: 'YOUR BE - ING TOOK FOR A RIDE... PLAIN OLD... LA - ZY PLEASE... KEEP MOVING BETTER KEEP MOV - ING DONT FALL A - SLEEP AT THE WHEEL -'. The score includes various musical notations such as treble clefs, time signatures, notes, rests, and triplets.

In example 2.31, “Voodoo” and “Kinetic” are aligned using the first measure of “Voodoo” as pickup. Trying many possible alignments, this layering of the two tracks created a clear call and response symmetry, bass line synchronicity, and drum alignment. Using this theoretical grid, the two pieces evolve together in dynamics and texture changing. As the two compositions develop, Radiohead’s sampled drum solo mentioned in their blog, and Rhodes keyboard clearly follow the intensity of Davis’s ensemble texture and solo volume. In a rare video interview with Phil Selway and Ed O’Brien from the same year as “Kinetic,” they reflected on building from reference points.

**Phil:** There are some tracks that are direct, not copies but

**Ed:** they were reference points

**Phil:** They were very much reference points

**Ed:** (later in the interview) You keep aiming and you miss but in missing you find your own thing.<sup>97</sup>

## **Improvisation and Splicing from 1970**

Engineer Nigel Godrich's editing process and comments point to Teo Macero. Macero was a jazz musician and engineer who spliced tape for Miles and Mingus. Teo Macero worked with Edgar Varèse, and did his first tape splicing on a Mingus album. In an interview with *Remix Magazine*, Macero stated, "I was there when he [Varèse] was working on the Poème Électronique for the 1958 World's Fair in Brussels...It was fascinating to me, all these sounds, later it inspired me to use tone generators on the Jack Johnson album I did with Miles (1970)."<sup>98</sup>

Macero remembered collaborating with Miles, "Both of us learned something from the things we've done together. I learned from the standpoint of editing, shifting the compositions around. It's a creative process being a producer with Miles. In fact, it's more of a creative process than it is with any other artist."<sup>99</sup>

Miles Davis, Charles Mingus, and Radiohead are all connected to Edgard Varèse through his student, Teo Macero. The recording splicing, synthesizers, and control room effects have already been discussed, but Varèse's exploration of composition through timbral change, sound masses, and textural migration are reborn in *Let My Children Hear the Music*, *Bitches Brew*, and *Kid A*. In the hands of Macero, the electronic influence of Varèse affected Miles Davis and Charles Mingus in studio editing, but also as a compositional method when Macero splices 15-second clips into new melodies for "Pharaoh's Dance." Three decades later, Radiohead's

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<sup>97</sup> Ed O'Brien and Phil Selway. "Interview on September 21, 2001," *YouTube*, accessed April 10, 2016, <https://www.youtube.com/watch?v=qTvem77-Q28&feature=youtu.be>.

<sup>98</sup> Bill Murphy, "Interview with Teo Macero," *Remix Magazine*, June, 2007, 98.

<sup>99</sup> Gregg Hall, "Teo... the Man Behind the Scene," *Downbeat Magazine*, July, 1974, 14.

producer used Varèse splicing techniques he studied on *Bitches Brew* by Macero. Nigel Godrich compared the process to the one employed by Miles Davis for his seminal *In a Silent Way* and *Bitches Brew* albums. “It’s that thing of creating interaction between people and then editing that whole thing to create dynamics,” Godrich told Rolling Stone. “We were thinking about things in very much a jazz way in terms of using edits and big blocks of music to create arrangements.”<sup>100</sup>

After *OK Computer* (1997), Radiohead is often credited for moving rock into the future by incorporating electronics, but in their techniques and influences they carefully returned to 1969-1972, where jazz had confronted the question of electronics. Jazz bassist Dave Holland remembered Davis’s techniques saying, “It was often a collage-type thing with a bass line and some chord movement, and maybe a melody related to that.”<sup>101</sup> Three of their influencing albums repeatedly mentioned, *Bitches Brew* (1970), *Monster Movie* (1969) by the jazz infused rock group Can, and *World Galaxy* (1972) by Alice Coltrane all crossed into electronic timbres. Seen as moving rock forward, *OK Computer* returns to a moment when jazz struggled with technology. Band members spent much of their time playing with tape loops, perfecting the background buzz. They could have used samplers but they preferred the more organic, analogue sounds of the tape and editing from the early 1970’s. Jeremy Allen Smith’s dissertation from Duke University considered the similar climate Miles Davis faced in 1970:

The issues of timbre and musical integrity were notably politicized in the early 1970’s due to their articulation within prominent discourses constructing technology as a corrupting influence on music. The rise of electric instruments, amplifiers, and instrumental effects were creating a radically new palette of sounds while redefining notions of virtuosity. Additionally, the prominent incorporation of studio technologies such as multi-tracking, tape splicing, and post-production effects were similarly redefining notions of creativity.<sup>102</sup>

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<sup>100</sup> Nigel Godrich, “Atoms for Peace Influences,” *Spin Magazine*, February 22, 2013, accessed April 10, 2016, <http://www.spin.com/2013/02/thom-yorke-radiohead-amok-atoms-for-peace-influences/130221-miles-davis/>.

<sup>101</sup> Tingen, 2001, 75.

<sup>102</sup> Jeremy Allen Smith, (2008) *Sound, Meditation, and Meaning in Miles Davis’s Tribute to Jack Johnson*. (Dissertation, Duke University).

The arrival of machines in music created competition from parameters that had been excluded from considerations as music: frequency, modulation, waveform, and noise. Musicologist Guido Adler first recognized the effect of technology on music in 1885, “instruments in vogue, which have even occasionally, on the one hand detracted from, or on the other hand extended, creative activity.”<sup>103</sup> More than any of the new parameters, noise challenged the hierarchy of the traditional definitions of music. Radiohead returns to the specifically dissonant chaos of *Bitches Brew*.

*Bitches Brew* is uniquely more discordant than most subsequent albums. The characteristic sound of Davis’s processed trumpet sound and his incorporation of chromaticism creates tension using vocabulary and timbre. In the song “Bitches Brew,” Teo Macero applies a large cathedral reverb and fast repeating delay to Davis’s acoustic sound that elevates the tonal and rhythmic conflict with the accompaniment part in the bass and Rhodes keyboard. This opening sequence from “Bitches Brew” is incredibly simple in harmony and rhythm, but Macero’s application of studio effects creates tonal and rhythmic conflict by distorting the traditional stability of time and timbre. Varèse’s prediction reinforces Davis’s performance, stating, “The role of color or timbre would be completely changed from being incidental, anecdotal, sensual or picturesque; it would become an agent of delineation.”<sup>104</sup> Miles Davis’s trumpet with delay effect leaves the rhythmic grid of the accompaniment. The “wet” reverb on his trumpet contradicts the “dry” sound of the bass and keyboard. These techniques of studio contradictions create the “chaos” Radiohead heard in *Bitches Brew*.

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<sup>103</sup> Kari E. Besharse, “The Role of Texture in French Spectral Music” (DMA Dissertation, University of Illinois Urbana-Champaign, 2009), 9.

<sup>104</sup> Ibid.

With the echoplex delay, time and harmony are distorted, creating a duet in different worlds. The result is two sound images at different tempi. The difference in tempo of the second voice prevents rhythmic entrainment.

**Example 2.32** – Miles Davis delay effect in “Bitches Brew”

The image shows a musical score for Example 2.32, titled "Miles Davis delay effect in 'Bitches Brew'". It consists of two staves. The top staff is labeled "TRPT.1" and has a tempo marking of "♩ = 88" and a dynamic marking of "ff". The bottom staff is labeled "DELAY EFFECT" and has a tempo marking of "♩ = 120" and a dynamic marking of "mp". The delayed effect part repeats the melody of the trumpet part at a faster tempo, creating a duet effect. The delayed part also includes a chromatic scale that is a result of a glissando effect.

The repetition effect of a delay module can be adjusted for tempo. In this case, the tempo seems approximately 120 beats per minute, faster than the 88 beats per minute tempo of the conducted quarter notes in the accompaniment. Macero could have timed the repetitions to the tempo to reinforce the meter. His decision to use the delay effect at a faster tempo points to an alternate world where time is faster, a musical world Varèse envisioned of “shifting planes... which take the place of linear counterpoint.”<sup>105</sup> The delay pedal repeats the harmony as well. Miles Davis’s Ab glissando is smeared into a chromatic scale, tearing a hole in the key of C harmonic minor.

In “Subterranean Homesick Alien,” “National Anthem,” and “Bloom,” Radiohead uses rhythmic delay to create conflicts with meter and timbre. In 1997, Yorke responded to Jim Irvin’s suggestion that *Ok Computer* had “a drift to it.” Yorke said: “Someone told me that their little child, whenever she gets on a train, thinks the stuff going on through the window is

<sup>105</sup> Ibid.



television. So she gets on the train and watches television and then walks off and she's somewhere else, and she can't figure it out. I thought that was right."<sup>106</sup>

In "Subterranean" the voice and drums are dry, but the guitars and Rhodes keyboard repeat altered echoes of their counter melodies with morphing delay in quarter notes. The effect reinforces rhythm, but dislodges timbre.

In "National Anthem," rhythmic effects and improvising horn players fight time at 4:48. Miles Davis and Radiohead both use their effects to challenge simple modal chords. Using morphing EQ's and alternate tempi, they use machines to develop music in the spheres of tone color and tempo. In "Bloom," they question tempo and time. Radiohead producer Nigel Goodrich seems to be instrumental in exploring Macero's techniques from *Bitches Brew*, as recounted in Ed O'Brien's journal:

Wednesday, Oct. 6<sup>th</sup> 1999: Nigel is really into this thing of throwing down random stuff and then simply keeping the really good stuff. It's a cool way of writing, if only because you end up with things that you couldn't possibly contrive to do.

These examples demonstrate an approach in many of Radiohead's compositions that disrupt the tonal monotony in the same way that Davis confronted long modal plateaus. Moving into electronics, Teo Macero co-opts the dissonance at the end of Davis's Second Quartet, engineering effects for Davis's sound that reflects his acoustic values of change and tension.

At the same time, Mingus was also editing in collaboration with Macero. Macero did not only use tape editing to glue together large musical sections, as on "Circle in the Round," or *In a Silent Way*, but extended his scope to editing tiny musical segments to create brand-new musical themes. "Pharaoh's Dance" contains seventeen edits. Its famous stop-start opening theme was entirely constructed during post-production, using repeat loops.<sup>107</sup> Macero, an engineering

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<sup>106</sup> Kent, 1997.

<sup>107</sup> Tingen, 2001, 77.

student of Varèse, played free jazz, spliced for Davis and Mingus, and is mentioned decades later by Radiohead’s producer. Behind the artists, like all engineers, Macero quietly carried techniques across genre and generations. He cut down their experiments, added effects, and recomposed fragments into new material that is studied by Nigel Goodrich. Sy Johnson remembered one characteristic session with Mingus and Macero:

Teo was dying to play his alto. He loves to play and does not get many chances anymore. And Mingus liked his alto playing and talked him into bringing his alto around to one of the over dubbings. So he got Teo to play, and Teo sounded, you know, Teo can play space music like a freak. And Mingus kept saying “Yeah, and we’re going to have the masked marvel on this album,” and Teo didn’t get credited in the notes with it.<sup>108</sup>

Behind Mingus, Davis, and Radiohead, Teo Macero seems under-valued in his synthesis of Varèse and free jazz into an editing philosophy.

## Coltrane Modal Gravity

In this section, three short examples are grouped together to show a pattern: how John and Alice Coltrane’s modal albums and their spirituality affected Radiohead. The bass pedal in “Subterranean Homesick Alien,” that was inspired by *Bitches Brew*, pointed forward to modalism. Also in 1997, “Tourist” as shown below operates in a plateau modal style, avoiding a sense of tonic in E major.

**Example 2.33** – Verse 1 from “Tourist” by Radiohead

"TOURIST" VERSE

IT BARKS AT NO ONE ELSE BUT ME - LIKE IT'S

10 SEEN A GHOST - - -

<sup>108</sup> John Goodman, *Mingus Speaks* (Berkeley: University of California Press, 2013), 43.

Yorke complimented their new modal tonalities with characteristic modal jazz phrasing that crosses the bar line. Chris Richards of the *Washington Post* noticed modal phrasing over the bar line: “His voice is the band’s one constant, but it’s not so much an anchor as a kite that floats over the proceedings.”<sup>109</sup> Continuing later in “Kid A,” from 2000, planing and over-the-bar phrasing continue to grow in their writing.

**Example 2.34**– “Kid A” melody over the bar line with modal accompaniment

The image shows two staves of music. The top staff is in treble clef with a key signature of one flat (Bb). It contains a melody with notes G4, A4, Bb4, C5, Bb4, A4, G4, F4, E4, D4. Above the staff are chord symbols: FΔ/A, G-13/Bb, A-/C, G-13/Bb, FΔ/A, G-13. The bottom staff is also in treble clef with a key signature of one flat. It contains a bass line with notes G4, A4, Bb4, C5, Bb4, A4, G4, F4, E4, D4. Above the staff are chord symbols: A-, Eo.

“Everything in its Right Place,” from 2000 as well, reveals a chromatic modal structure, with additional characteristics that I consider John Coltrane-specific, referring back to Coltrane’s Andalusian Phrygian progression in 6/4 from “Olé” in example 3.5.

**Example 2.35** – “Everything in its Right Place,” Rhodes Intro played by Yorke

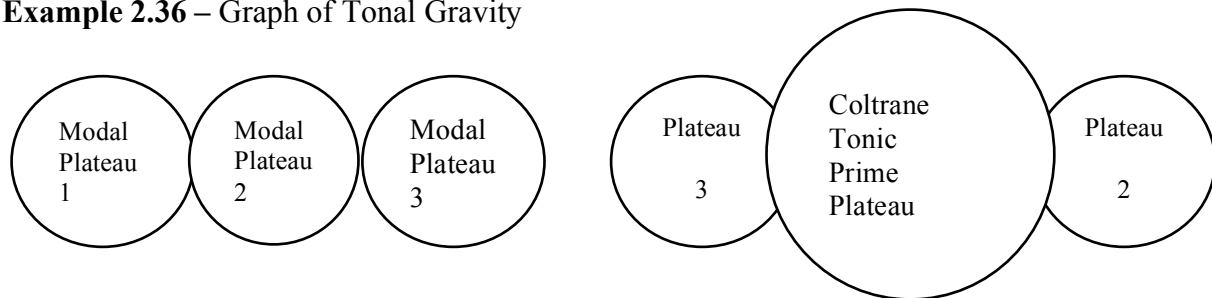
The image shows two staves of music. The top staff is in treble clef with a key signature of three flats (Bbb). It contains a melody with notes G4, A4, Bb4, C5, Bb4, A4, G4, F4, E4, D4. Above the staff are chord symbols: RHODES, CΔ, DbΔ7(#11), Eb6. The bottom staff is in bass clef with a key signature of three flats. It contains a bass line with notes G4, A4, Bb4, C5, Bb4, A4, G4, F4, E4, D4. Above the staff are chord symbols: CΔ, DbΔ7(#11), Eb6. The time signature is 6/4.

Jazz educator Ron Miller has authored the most complete descriptions of modal composing patterns into categories of tonal, non-modal, chromatic, and modal. Chromatic modal offers the most appropriate definition for consideration. In chromatic modal, a system of chords

<sup>109</sup> Chris Richards, “As Usual Radiohead is Worth a Close Listen,” *Washington Post*, February 21, 2011, <http://www.washingtonpost.com/wp-dyn/content/article/2011/02/20/AR2011022003466.html>.

is organized, but without a specific key. The composition may have several keys (plateaus) that are usually non-diatonic, and governed by a harmonic rhythm that is symmetrical. I consider John Coltrane’s heavier in tonic or having a stronger “tonal gravity,” or centrality described by Princeton music theorist Dmitri Tymoczko: “One note is more prominent than others, appearing more frequently and serving as a goal of musical motion.”<sup>110</sup> In Coltrane’s early modal compositions, I would graphically represent the tonic as a larger than average circle bleeding into other plateaus in the structure, in example 2.36 below. I consider this stronger tonal gravity, or overlap—a defining difference in Coltrane’s ensembles after his departure from Miles Davis’s band with such albums as *My Favorite Things*. Using Miller’s approach, “Everything in its Right Place” most closely resembles the descriptions of chromatic modal with a common focal point. Following Coltrane’s spiritual growth, the tonic seems to grow in influence over chord progressions, before collapsing into free jazz or “the new thing.”

**Example 2.36 – Graph of Tonal Gravity**



At the other end of Coltrane’s growth in tonic, jazz scholar Keith Waters hears Herbie Hancock weakening the influence of cadence. Keith Waters analyzes Hancock’s cadence in “Little One,” as “weakly functional,” continuing that “modal compositions called into question many of the fundamental assumptions about harmonic progression by suppressing or abandoning functional harmony, by slowing down the harmonic rhythm, and replacing standard harmonic

<sup>110</sup> Dmitri Tymoczko, *A Geometry of Music* (New York: Oxford University Press, 2011), 4.

progressions with different harmonic possibilities.”<sup>111</sup> Thom Yorke said in 2000, “I was sick of chords.”<sup>112</sup> In light of Waters’s interpretation of “harmonic possibilities,” I suggest that Miles Davis’s “So What” is tonic-neutral, while Herbie Hancock’s “Maiden Voyage” is a movable tonic, and John Coltrane’s “Impressions” is tonic-heavy, pulled by stronger root gravity in the comping orbits of the piano, bass, and drums. Radiohead’s modal is drawn from this modal subgroup.

The chromatic modal progressions of Radiohead in “Everything in its Right Place,” “Pyramid Song,” and “Packt Like Sardines,” suggest lineage to Coltrane’s tonal ostinato and universal religion. All of their compositions explore modal planing but with root pedals. At the same time, their new compositions with functional progressions become infrequent.<sup>113</sup>

As Radiohead’s music became increasingly spiritual (but not religious), the sound of Coltrane became more prevalent. In a heightened state of centricity, the growing power of the tonic represents individual transcendence, as it crosses harmonic barriers, or chords. According to Siu-Lan Tan, “The matching patterns (or isomorphisms) between the structure of emotional experience and the structured movement of a musical object is a synthesis. It occurs because we search in the musical object for something that has its origin in ourselves.”<sup>114</sup> Yorke explains, “It’s a meditative state, like standing in the tube station when the train is coming through. Things go past you - trains, people.”<sup>115</sup> Throughout this period, modal usage and spiritual expressions grew in Radiohead’s compositions, under the influence of Alice and John Coltrane. From this period forward, modal plateaus are more common than traditional rock progressions in their

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<sup>111</sup> Keith Waters. “What is Modal Jazz?” *Jazz Educators Journal*. 7/2000, 53-55.

<sup>112</sup> David Fricke. (2000). *Rolling Stone*.

<sup>113</sup> Electronic musicians, including Aphex Twin, Squarepusher, and other Warp recording artists, should also be mentioned as influential in Radiohead’s erosion of functional harmony, but not representative of this stronger tonic that I attribute to Coltrane.

<sup>114</sup> Siu-Lan Tan, Peter Pfordresher, and Rom Harré, *Psychology of Music: From Sound to Significance* (New York: Psychology Press, 2010), 251.

<sup>115</sup> Fricke, 2012.

music. In the next chapter, I will show how the jazz characteristics of these first two chapters blend into Radiohead's sound. In this way, jazz becomes an approach more than a skeleton.

## CHAPTER 3

### SYNTHESIS OF JAZZ STRUCTURALISM

#### **2003-2012, *Hail to the Thief* and *The King of Limbs***

In this chapter, Radiohead's use jazz for independent operations is explored. I will show how these techniques are assimilated into their compositions. Here, the modeling practice seems distant, but their behavior more closely resembles an interactive environment. In this period, their sound is often modal, their melodies develop in variations, and their lyrics respond in more unexpected dialogue. Moreover, they ask their own complex questions and, through jazz thinking, find their own answers. Their collage of Mingus, Armstrong, and Coltrane references that were acute are now diffused into their texture.

#### **“We Suck Young Blood”**

As the election of George W. Bush hung over liberals in the U.S. and abroad, Radiohead moved their politics forward, recording *Hail to the Thief* in 2002. *Hail to the Thief* was clearly to the left politically, but avoided specific depictions—leaving room for their listeners to create a narrative. Radiohead recalls Mingus in order to address the politics of the Bush Era in “We Suck Young Blood.” In “Bloom,” their jazz becomes a process more than a collage. Like vampires across centuries, “We Suck Young Blood” refers to the classical requiem, work song, prog rock opera, and free jazz. In 2005, Yorke said as he has many times before, “I’m very fascinated with putting things in the wrong place.”<sup>116</sup>

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<sup>116</sup> Thom Yorke. (2005) Video Interview 12:21, Montreux Jazz Festival. Accessed April 4, 2016, [https://www.youtube.com/watch?v=vGDW\\_42qImM](https://www.youtube.com/watch?v=vGDW_42qImM)

Collectively, these fragments are chained together to a primary guide, the protest sermon by Charles Mingus in “Freedom.” In this closing section, Radiohead’s jazz operations liquefy into their creative process. Guy Garcia from *Time* noticed that “their fusion of urgency and detachment feels organic, unforced and fertile.”<sup>117</sup>

### Charles Mingus in “We Suck Young Blood”

In “We Suck Young Blood,” from the 2003 album *Hail to the Thief*, the quintet shows a higher level of synthesis of jazz operations. The first reference to this song is at a sound check in 2001, when it was “a new tune with no name and mumbled words...It is a clanging, driving thing, a bit Doors-like, full of swampy blues riffs.”<sup>118</sup>

Inspired by Charles Mingus’s album *Live at Town Hall*, as was the earlier “Pyramid Song,” this composition also retains an intertextual conversation with African-American diasporic music, this time pointing directly to Mingus’s sermon on “Freedom.”

#### Example 3.1 – Hummed melody from Mingus’s “Freedom”



In “Freedom,” Mingus refers to the work song structure and the gospel sermon narrative by recalling their idiomatic devices. The work song is referenced in strong clapping and humming by the band at a slow tempo. The collective clap on beat four in “Freedom” signifies the chain gang hammer or plantation whip. The humming choir carries connotations of passive

<sup>117</sup> Guy Garcia, “Radiohead Revitalized,” *Time*, June 19, 2006, accessed April 10, 2016, <http://content.time.com/time/arts/article/0,8599,1205494,00.html>.

<sup>118</sup> Craig McLean, “Radiohead: Karaoke, Champagne, Shopping.” *The Face*, January, 2002, 53-58.



resistance, collective rhythmic entrainment, and melodicism through oppression. The hummed melody below is pentatonic, connecting all movements of African-American music.

Radiohead responds in “We Suck Young Blood” with their own hummed background melody.

**Example 3.2** – Hummed background melody from “We Suck Young Blood”



By repeating the melody continuously, African-American spiritual transcendence of the Southern Baptist and Pentecostal church is brought into view, at which point Mingus takes to the pulpit, addressing the congregation and by extension all Americans in 1962:

This mule ain't from Moscow.  
This mule ain't from the South.  
This mule's had some learning,  
Mostly mouth to mouth.

This mule could be called stubborn and lazy  
But in a clever sort of way,  
This mule could be working and waiting,  
And learning and planning  
For a sacred kind of day.

...

Freedom for your daddy  
Freedom for your momma  
Freedom for your brothers and sisters  
But no freedom for me

Mingus invokes the voice of a preacher for a scathing metaphor depicting the U.S. as a plantation and the black worker as a mistreated and underestimated mule. Yorke takes Mingus's church sermon forward. Instead of imitating, Yorke begins in the next section of the church

service, “The Invitation.” This section, also known as the “Deliverance,” offers membership for any audience members to join or repent for their sins. Unlike the sermon which is always spoken, the invitation may be sung or spoken.<sup>119</sup>

Are you hungry?  
Are you sick?  
Are you begging for a break?

Are you sick?  
Are you fresh?  
Are you strung up by the wrists?  
We want the young blood.

In this section, the preacher may ask the audience a series of questions for reflection. Yorke follows suit, in African-American rhetorical form stretching back to Tommy Dorsey’s infusion of blues conversation into Chicago gospel in the 1920’s<sup>120</sup> Yorke later recalled a vaudeville sense: “I mean, it’s sort of so vaudeville and like... we had all these fantasies about... when we were recording it we had... Paul Thomas Anderson came to the studio, and he brought this camera with him, which was a 1920s camera.”<sup>121</sup> Radiohead’s lyrical question “Are you torn at the seams?” functions equally well in gospel or vaudeville. *Mojo Magazine* described Yorke in this songs as “climbing into character with suspiciously little effort, Yorke shifts into his Billie Holiday gear, where gravity makes the effort of singing unbearable...almost impossible.”<sup>122</sup> While 1920’s gospel dealt with the Depression from the altar, vaudeville disarmed it from the stage. Yorke’s vampire preacher draws blood from both genres.

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<sup>119</sup> This reference to formal structure comes from my playing experience, playing as a musician since 2001 at Triedstone Full Gospel Church, an African-American gospel church in Chicago.

<sup>120</sup> During the Great Migration, Tommy Dorsey and other Chicago jazz/blues musicians began infusing spirituals with blues and first person questioning or witnessing with song like “If You See My Savior” and “What Could I Do?”

<sup>121</sup> Thom Yorke, *Interview CD*, Parlophone THIEF 03, 2003, CD.

<sup>122</sup> Danny Ecclestone, “Computer Love,” *Mojo Magazine*, 2006, 86. <http://www.citizeninsane.eu/media/m2006-08Mojo-9.jpg>.

If this is vaudeville, it is in New Orleans. Using the pentatonic scale, Yorke leaps in a classic repeated “call” from the root up to the minor 3rd of the scale, before descending to the flat 7th below the tonic. Conscious or subconsciously, the structural motion forward by Yorke in the church service form is clear. Again, as in “No Surprises,” “Motion Picture Soundtrack,” and “Pyramid Song,” Yorke’s lyrics talk back to jazz text. In the context of the political themes in *Hail to the Thief*, voting and vampire church membership are personal acts of self-determination. Yorke’s vampire invitation must be accepted, corporate monsters and politician can only survive if tolerated.<sup>123</sup> By putting a vampire in church, singing a slave ship blues, Yorke continues in the Mingus doctrine of juxtaposition by “putting things in the wrong place.”<sup>124</sup>

Mingus made several recordings of “Freedom,” but the baritone sax counter-melody on *Live at Town Hall* ([link](#)) makes it clear that this is the version Radiohead modeled.<sup>125</sup> The voice leading extraction from the baritone line into the arrangement of “We Suck Young Blood” ([link](#)) is developed in variations by Colin Greenwood’s bass line. The two compositions are overlaid below. To line up, they are offset by a measure, showing that “Freedom” was a lead in to the first measure of “We Suck Young Blood.” Greenwood’s bass melody develops Pepper Adams’s baritone line in variation. The ascending whole step, half step cycle of Mingus is borrowed as well by Radiohead in the fourth measure.

Radiohead distills the markers from Mingus’s saxophonist Pepper Adams’ original performance and uses the shape for harmonic design. What was once a linear melodic element is now the subject for progression of chords and multi-guitar polyphony.

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<sup>123</sup> In Bram Stoker’s *Dracula* (1897), a vampire can only enter by invitation. Before vampires, demons required invitations. In Goethe’s *Faust*, Mephistopheles can’t enter the house of Faust without invitation.

<sup>124</sup> Thom Yorke. (2005). Band Interview at Montreux Jazz Festival.

<sup>125</sup> Charles Mingus, *The Complete Town Hall Concert*, Blue Note CDP 7243, 1994, CD.

**Example 3.3** – “Freedom” at Town Hall (1:40) over “We Suck Young Blood” (0:00)

The musical score consists of three systems. The first system features two staves: 'MINGUS' (top) and 'RADIOHEAD' (bottom). The Mingus staff has a bass line with notes and rests, with chord symbols C-, Bb-, C-, Bb/Db, and C- above it. It includes performance instructions 'BARI-TONE', '5', 'CLAP', and '5'. The Radiohead staff has a bass line with notes and rests, with chord symbols Eb-, BbΔ7, Eb-, BbΔ7, and Eb- above it. It includes performance instructions 'BARI-TONE COPY', 'CLAP', and 'CLAP'. A 'BASS MOTION' bracket spans the first two measures of both staves. The second system shows a continuation of the bass lines. The third system shows a continuation of the bass lines with chord symbols FΔ, F#Δ, and FΔ above the notes. A 'BASS MOTION' bracket is also present above the Radiohead staff in the third system. The score ends with a double bar line and a '2' indicating a second ending.

The new harmonic rhythm also recalls the texture of the Introitus from Mozart’s *Requiem*, connecting Black and White church music across time. My research does not indicate that Radiohead’s reference to the requiem is direct, but it is through a general awareness of standard conventions used in the requiem of the ground bass and four-part cycling counterpoint. In other words, this is a Black and White church service.

Yorke reflected on the song’s inspirations:

**Yorke:** It’s all very tied up with Hollywood as well and, you know, the constant desire to stay young and... fleece people, suck their energy. Corporations... Corporate media groups love to do that...blah, blah, blah...

**Q:** It has this kind of work song, clapping thing, and then this little New Orleans jazz freak-out type...

**Yorke:** I’ve always wanted to do the slave ship tune. And this is definitely it... It always reminds me of being in the bottom of the ship with all the slaves who’re rowing the boats.<sup>126</sup>

Greenwood’s comments echo Yorke’s: “You grow up picturing the image of big bands like Glenn Miller’s and when you listen to Mingus he makes you change your perception of jazz.”<sup>127</sup>

<sup>126</sup> Thom Yorke. (2003). Interview with XFM, <http://www.radiohead.fr/we-suck-young-blood-2/>.

Often talking about Miles Davis, Jonny Greenwood sounds autobiographical. His attitude resembles that of a jazz musician—comfortable with a history, discipline, and borrowing:

People distrust learning, don't they?" muses Greenwood. "There are all these stories of Miles Davis going to the Juilliard academy and poring over classical scores in the library. That side of Miles is glossed over a bit in favor of the living on the edge stuff. But it just makes me love him even more, the idea of him wanting to get musical inspiration from everything and everywhere."<sup>128</sup>

In "We Suck Young Blood," Radiohead pulls together multiple fragments from African-American history, blending their sources into finer silt than previous compositions. For the next decade, Radiohead's jazz was a way of thinking. In the last example from 2011, "Bloom" is a dissolved compilation of jazz influences. Radiohead asks jazz questions about meter and the illusion of time.

## **"Bloom"**

Chris Richards from the *Washington Post* describes the themes of the composition "Bloom" in the following way: "The first of the album's eight songs, opens with a looping piano phrase worthy of Philip Glass and a drum kit suffering from a fit of hiccups. 'Open your mouth wide,' singer Thom Yorke mewls at the onset. 'A universe inside'."<sup>129</sup> In "Bloom" ([link](#)), Radiohead synthesizes jazz experimentation with the musical elements of meter and tempo. In 2006, Yorke said, "music is like Mathematics... You're trying to form patterns that describe life

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<sup>127</sup> Broc, 2001.

<sup>128</sup> Thom Yorke and Jonny Greenwood interviewed by Simon Reynolds, "Walking on Thin Ice," *The Wire*, July, 2001, 26-33.

<sup>129</sup> Richards, 2011.

around you.”<sup>130</sup> Richards described the listening effect by saying, “This one bristles with nervous anticipation, contrapuntal rhythms gently doing battle with each other.”<sup>131</sup>

Their collective rhythmic patterns often imply a clave pattern but are usually displaced from their typical rhythmic placement in Latin music. In “Feral,” Radiohead’s clave begins on beat 1 of the second measure, in “Bloom,” a stable metric entrainment is prevented by loop clipping in the Intro that seems to shorten the expected listening pattern length by an eighth note. The first three measures of 9/8 sounds like a stretched 4/4, a technique also used on the beginning of John Coltrane’s “Olé.” In the third measure the phrase is compressed into the arrival of 4/4 but the downbeat is still disguised by accented up beats in the next measure.

**Example 3.4 – “Bloom” Intro**

The musical score for the 'Bloom' Intro is presented in three systems. The first system is labeled 'PIANO' and is in 9/8 time, featuring a melodic line with eighth-note patterns and a bass line with a steady eighth-note accompaniment. The second system continues the melodic line, showing a change in the bass line's rhythm and a triplet of eighth notes. The third system shows the bass line in 4/4 time, with accented upbeats (indicated by arrows) and repeat signs.

**Example 3.5 – Bass line in the Intro of Coltrane’s “Olé”**

The musical score for the 'Olé' Intro is shown in two systems of bass clef notation. The first system is labeled 'INTRO' and 'TWO BASSES', with measures numbered 1 through 7. The second system is labeled 'HEAD' and starts at measure 4. Blue circles highlight specific rhythmic patterns in both systems, and arrows indicate the relationship between these patterns across the systems. The score includes various time signatures (6/4, 3/4, 8/4, 2/4) and dynamic markings.

<sup>130</sup> The Culture Show, “Interview with Thom Yorke,” *YouTube*, October, 2006, accessed April 10, 2016, [https://www.youtube.com/watch?v=za\\_ze85LcBA](https://www.youtube.com/watch?v=za_ze85LcBA).

<sup>131</sup> Richards, 2011.

Throughout “Bloom,” Radiohead goes to great lengths to prevent simple rhythmic entrainment for the listener by distorting the time of phrases. In the example below, I show that John Coltrane explored this same rare operation of time distortion in 1961 in the Intro to “Olé.”<sup>132</sup> The bass lines played by Reggie Workman and Art Davis in the Intro are a purposeful metric variation on the actual bass line in the head of “Olé.” By adding an extra eighth note in the 7/8 measure, the listener is withheld from simple rhythmic entrainment deeper into the composition. When the 6/4 begins, the bass line sounds slightly misshapen.<sup>133</sup> Coltrane prevents quick pattern recognition of the bass line by subtracting an eighth note in the head.

Radiohead continues with metric distortions akin to Coltrane’s explorations, in the second half of the Intro, where a second drummer adds a triplet tom figure intentionally recorded at a slightly slower tempo. Where Coltrane deleted an eighth note to momentarily conceal tempo, Radiohead conceals the 132 BPM tempo by presenting two different tempi simultaneously.

**Example 3.6** – “Bloom” drum parts competing in different tempi (0:19)

In the fourth measure of “Ole,” instruments enter with different accents and figures in rhythmic polyphony that continues to prevent metric simplicity. Both “Bloom” and “Olé” recall Wayne Shorter’s mentality during *Miles Smiles*. According to Jeremy Yudkin, “We [David, Shorter, Hancock, Ron Carter, and Tony Williams] were tampering with the DNA of the

<sup>132</sup> John Coltrane’s influence is often mentioned by Radiohead, but not with specific compositions.

<sup>133</sup> Later in the handwritten manuscript for “Acknowledgement” from *A Love Supreme* (1965), John Coltrane continues metric exploration with the word schematic instructions, “into all drums multiple meters and motif played in all keys together.” “John Coltrane’s Handwritten Outline for His Masterpiece *A Love Supreme*,” *OpenCulture.com*, September 23, 2013, accessed April 10, 2016, <http://www.openculture.com/2013/09/john-coltranes-handwritten-outline-for-his-masterpiece-a-love-supreme.html>.

song.”<sup>134</sup> Like the second half of the Intro for “Olé” below, “Bloom” continues to disrupt the listener’s expectations by adding shifting accents that suggest other meters.

**Example 3.7** – Shifting accents and layers in “Olé” (0:17)

The image displays a musical score for the piece "Olé" (0:17). It consists of three staves: a grand piano (Gtr) staff, a bass (B) staff, and a drum set (DRUM SET) staff. The key signature is one sharp (F#), and the time signature is 6/4. The score is marked with a '4' at the beginning, indicating a four-measure phrase. The piano part features a complex rhythmic pattern with accents and slurs. The bass part provides a steady accompaniment with eighth and sixteenth notes. The drum set part shows a complex, syncopated rhythm with various drum sounds indicated by different note heads and stems.

Radiohead is arriving at jazz questions by challenging metrics. Beneath the surface, they are actually working with an Afro-Cuban tumbao. Manipulation of the tumbao pattern in a digital environment ventures into a new landscape of purposeful “metric dissonance” described by popular music scholar Mark Butler and Adam Jay. Viewed collectively, layers work together to construct meter. Yet as Adam Jay notes, “the mechanisms within this clockwork do not always tell the same time. Some cogs, of different sizes, move apart and then back together at regular intervals. Other gears, although identical in size, articulate displaced cycles than never align.”<sup>135</sup>

<sup>134</sup> Jeremy Yudkin, *Miles Davis, Miles Smiles, and the Invention of Post Bop* (Bloomington: Indiana University Press, 2007).

<sup>135</sup> Mark J. Butler, *Unlocking the Groove* (Bloomington: Indiana University Press, 2006), 138.



**Example 3.8** – Synth line shifting accent in “Bloom” (0:09)



Since “Subterranean,” Yorke had struggled with time as a concept of science fiction and otherness, stating, “It’s also about being out of step with the space/time continuum.”<sup>136</sup> The second passage of the Intro below continues to prevent rhythmic entrainment by shifting the synthesizer motif by one eighth note from the upbeat of four to beat one when repeated. The combined effects conceal the true Afro-Cuban roots in tumbao. When the tumbao bass line joins the competing drum patterns a vague sense of Latin origin becomes audible.

**Example 3.9** – Tumbao bass line in “Bloom” (0:47)



Above the bass line, a second synthesizer adds a traditional Charleston based clave pattern, but avoids traditional two measure groupings, keeping the listener out of predictability through good continuation.

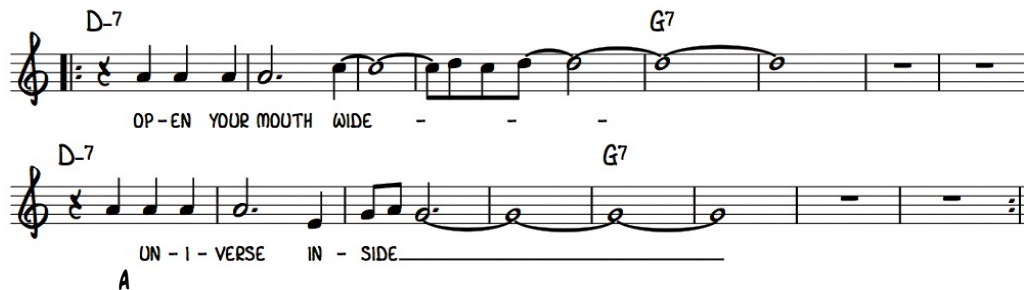
<sup>136</sup> “Subterranean Aliens,” *Request Magazine*. 1997.

**Example 3.10** – Synth 2 Charleston clave (0:40)



Radiohead’s rhythmic behavior in “Bloom” bears a strong resemblance to Butler’s metrical dissonance, which also uses tempo. Radiohead’s recurring tempo disruption also points to an alternate tempo world. Yorke said, “If you slow down to an almost-stop you can see everything moving too fast around you and that’s the point.”<sup>137</sup> In a slower metric pool, Yorke’s lyrical phrases recall the “pastoral, fragile, and timeless feel of *In a Silent Way*.”<sup>138</sup> Above the double-time tempo, his lyrics detach from the chain of tempo, floating across the bar line.

**Example 3.11** – Yorke’s vocal melody in “Bloom” (1:00)



On paper, “Bloom” should not work. In the text and rhythmic conflict, Radiohead reconciles multiple tempo realities in their universe, constructing logic by force that recalls Nietzsche’s philosophical premonition, “Historical knowledge streams on man from sources that are inexhaustible, strange incoherencies come together, memory opens all its gates and yet is

<sup>137</sup> Dave DiMartino “Give Radiohead Your Computer,” *Yahoo! Launch*, May 2, 1997, <http://web.archive.org/web/20070814183856/http://music.yahoo.com/read/interview/12048024>.

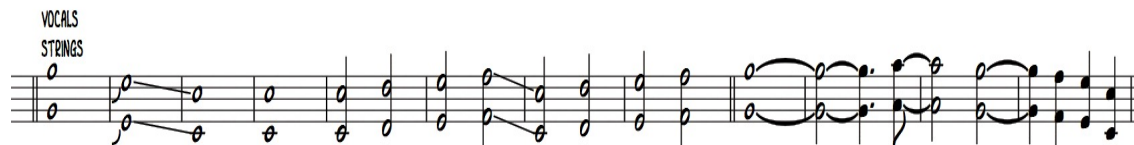
<sup>138</sup> Tingen, 2001, 70.

never open wide enough.”<sup>139</sup> Yorke’s lyrics echoes Nietzsche’s dilemma: “Open your mouth wide, the universal sigh...I’m moving out of orbit, turning in somersaults.”

Composing asynchronous rhythmic layers in the studio that critics said “couldn’t be played lived,” Radiohead answered their critics quickly by learning their distorted tumbao and performing “Bloom” live, adding jazz drummer Clive Deamer to the ensemble. When asked about *The King of Limbs*, Miles Davis’s chaos is still mentioned in interviews. Yorke recalled, “Creating chaos and trusting something will come of it - not panicking, just going with the blind faith and all of these moving parts.”<sup>140</sup> The moving parts of jazz they studied still guide their development.

After the two vocal verses in “Bloom,” references to Alice Coltrane and Charles Mingus return. Coltrane’s orchestration of vocals and strings in octaves and sliding Middle Eastern glissandi are invoked at 2:17 above Penderecki modeled clusters.

**Example 3.12** – Jonny Greenwood string orchestration in “Bloom” (2:17)



The image shows a musical score for two parts: VOCALS and STRINGS. The vocal part is written on a single staff with a treble clef, featuring a melodic line with various note values and rests. The string part is written on a double staff with a bass clef, showing a complex texture with many notes, some of which are beamed together, suggesting a dense, layered sound. The notation includes various note values, rests, and dynamic markings.

At 2:50, in the brass interlude, Mingus’s stacks of dissonance from “A Foggy Day” and “Freedom” return, however they are now tonal and darkened with flugelhorns that replace trumpet, trombones, and saxophones. Below the flugelhorns, Alice Coltrane’s pentatonic trills in the strings from her version of “A Love Supreme” still fill out the texture, but the collage has been “rubbed away,” as Yorke described.

<sup>139</sup> Friedrich Nietzsche, *The Use and Abuse of History*, trans. Adrian Collins (London: MacMillan, 1957), 23.

<sup>140</sup> Ibid.

**Example 3.13** – Jonny Greenwood brass pyramids over pentatonic string trills

The image shows a musical score for two parts: Flogelhorns and Strings. The Flogelhorns part is written on a single staff with a treble clef and a 4/4 time signature. It begins with a G7sus chord and a melodic line consisting of eighth and quarter notes. The Strings part is written on a single staff with a bass clef. It starts with a trill, followed by three measures of a 2/4 time signature, each containing a chord.

In 2011, Chris Richards from the *Washington Post* heard horns and strings that were “intravenous... from a distant horizon.” Richards’ description matches Radiohead’s absorption and synthesis of strings from Alice Coltrane and brass chords from Mingus. Jazz had dissolved into Radiohead’s common practice. Returning to Chris Richards’ observation at the beginning of this section, the borrowed elements from jazz that stood out with acute angles are now synthesized blending into Radiohead’s texture.

**Relative Questioning of Time**

Radiohead’s practice of jazz techniques has brought them to jazz questions asked through creative practice. Today, Radiohead and jazz musicians like trumpeter Ambrose Akinmusire can coexist, creating music born from different eras, but asking the same musical questions of time in musical meaning. Recently in *The Imagined Savior is Far Easier to Paint*, Ambrose Akinmusire has questioned tempo singularity in his composition “As We Fight,” just as Radiohead did in “Bloom.” However, Yorke’s exploration of time and gravity in music dates back long before “Bloom.” In 2001, he mentioned theoretical physicist and author Stephen Hawking as a musical influence in an interview with Gideon Yago from *MTV*:

**Gideon:** “Can you tell me the story behind Pyramid Song?”

**Thom:** “Yeah... It’s sort of difficult to explain though Uhm.. (long pause) It’s funny ‘cause that song literally took 5 minutes to write, yet it came from all these mad places. you know what I mean? Sort of like something I never thought I could actually get across in a song, and lyrically. And I sort of managed it and so... I was really chuffed. And it was just uhm.. Lots of stuff about Hawking...

**Phil:** “Stephen Hawking?”

**Thom:** “you know, he talks about time, and the idea that time is completely cyclical. It’s always doing this [spins finger around in circles] It’s just a factor like gravity. And it’s something that I’ve found, sort of, in Buddhism too. And that’s what Pyramid Song is about. Pyramid Song is about the fact that everything is going in circles. It’s not a desperate attempt to avoid death... It’s not a desperate attempt to avoid life passing you by. Getting old, all that sort of stuff. That’s all just bollocks. It’s great. It’s just this really beautiful thing that’s just going ‘round and ‘round<sup>141</sup>

Radiohead’s tumbao exits simultaneously at different tempi. Akinmusire disrupts the idea of singular constant time in jazz by shifting from one tempo to another in the opening melodic melody of his composition “As We Fight.” Akinmusire changes time through a shifting quarter note “portal” in the phrase below at 1:02. “As We Fight” exists in two different orbits.

**Example 3.14** – Tempo shift by Ambrose Akinmusire in “As We Fight” (1:02)



As time has proven to be different on planets with different strengths of gravity, it seems plausible that art could attend to the same enigma of general relativity through tempo multiplicity. Baroque musicians emulated orbits with counterpoint in their lifetime, and I suggest that Radiohead and Akinmusire live in the age of quantum mechanics as a question. In 1905, scientist Albert Einstein’s theory of general relativity predicted “the space-time around Earth would be not only warped but also twisted by the planet’s rotation.” In other words, gravity changes time. Radiohead and Ambrose Akinmusire question the Western illusion of constant

<sup>141</sup> Yago, 2001

time imposing different tests on our enduring value. Musicologist Guido Adler's description of musicology in 1885 could have easily been applied to Radiohead and Akinmusire, when he said, "the total picture of an age reveals a distinctive artistic character."<sup>142</sup>

Although Radiohead's tempo experiment is not derivative from Akinmusire as a jazz structure, I find it interesting and beyond coincidental that both artists level influential attacks to tempo singularity in clave governed patterns within three years of each other. Yorke and Akinmusire raise the same question in different genres, at the same time, like planets with different gravities.

### **Emergent Subgroups of Jazz Structures in Radiohead's Music**

In the course of my research, I have suggested that Radiohead's invocation of jazz practices seems to coalesce into four governing categories of behavior. The categories that I am suggesting refer only to their emulation of jazz influences they have mentioned, and exclude unknown jazz associations and many significant influences from other genres.<sup>143</sup> Compared to their rock, classical, or world music influences, the jazz collective of Armstrong, Davis, Mingus, The Ink Spots, and Coltrane form a consistent behavioral orbit. For example, the dissonant strings in "How to Disappear Completely" are often-credited to Penderecki's atonal *Threnody for the Victims of Hiroshima*. It is true that guitarist Jonny Greenwood writes many atonal fragments after Penderecki's style, but structurally, "How to Disappear Completely" mixes atonal exceptional fragments into tonal architecture. This is not a method of Krzysztof Penderecki, but

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<sup>142</sup> Mugglestone, 1981, 7.

<sup>143</sup> Although it is beyond the scope of this paper, groups including The Talking Heads, Can, Joy Division, The Smiths, The Pixies, Thomas Pynchon, Krzysztof Penderecki, and Olivier Messiaen are mentioned throughout their career. These wide influences are dispersed, often overlap, and often reflect their own jazz values.

it is a career long practice of Charles Mingus. The emergent creative patterns are described below.

### **Design Through Gestalt**

- Representative Compositions: Subterranean Homesick Alien, No Surprises, National Anthem, Motion Picture Soundtrack, Pyramid Song, Dollars and Cents, You and Who's Army, Life in a Glasshouse, Kinetic, We Suck Young Blood, Bloom

Radiohead's modeling of jazz suggests an awareness of Gestalt design strategies often used in art education. Perhaps inspired by Thom Yorke's college years in art school and contemporary music ensembles, Radiohead often collages jazz with rock under the Gestalt rule that the whole composition is different than its individual parts. By aligning or disheveling fragments from jazz, Radiohead is able to toggle on and off the listener's ability to predict *good form*, *proximity*, *good continuation*, and *common fate*.<sup>144</sup> According to the principle of *good continuation*, elements that are arranged on a line or curve are perceived to be more closely related than elements not on a line or a curve. By using free jazz over a rock texture in "National Anthem," Radiohead creates an unexpected, but logical Gestalt line connecting two distant genres of African-American music. In Radiohead's "Life in a Glasshouse," distant points of Dixieland, work song, and rock are connected by a logical but unexpected marriage of the New Orleans funeral brass and apathetic Seattle grunge vocals.

*Proximity* through gestalt cognition dictates that things that are close together are perceived to be more closely related than things spaced farther apart. In "Life in a Glasshouse,"

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<sup>144</sup> In psychology, gestalt describes through perception of the whole and structuralism describes through creation of the whole. Gestalt and structuralism were considered competing schools of observation for analyzing human behavior in the 20<sup>th</sup> century. In Radiohead's music as fluid and creative art expressing the accumulation of competing ideas, I suggest that this conflict is voided. Radiohead creates through structuralism and gestalt. Retroactively, their creative origins can be perceived as structural origins to jazz or gestalt continuations of jazz methodology.

the emotional distance between grunge apathy and funeral procession misery is short, but the generations crossed are 100 years apart. Here, *proximity* distance deters the listener from quick reconciliation.

The Gestalt principle of *common fate* dictates that humans perceive elements moving in the same direction as being more related than elements that are either stationary or moving in a different direction. Using common fate for their own compositional strategies in “Kinetic,” Radiohead builds parallel polyphonic episodes alongside “Miles Runs the Voodoo Down.”

### **Nostalgic Jazz Vocal Authenticity**

- Representative Compositions: No Surprises, Pyramid Song, Dollars and Cents, We Suck Young Blood, Creep

Singer Thom Yorke never copies jazz or blues when borrowing jazz textures or forms. Consistently, he responds in his voice with a lyrical reaction to his influences. Jazz vocal compositions are used in remembrance of authentic or organic music that challenges Radiohead’s own synthetic electronics used in other songs.

### **Prosthetic Studio Technology**

- Representative Compositions: Subterranean Homesick Alien, Motion Picture Soundtrack, Kinetic, National Anthem, Bloom

In this group of compositions, technology does not replace instrumental creativity; technology distorts its natural appearance. By displacing timbre, location, and tempo, Radiohead pastes jazz elements into different environments, creating unexpected functionality. Taken out of context, or warped into different shapes, standard jazz patterns become malleable objects that challenge listeners in their disguised or relocated positioning.



## Migration to Modal Practices

- Representative Compositions: Subterranean Homesick Alien, National Anthem, Motion Picture Soundtrack, Pyramid Song, Dollars and Cents, Kinetic, Bloom

Beginning with “Subterranean Homesick Alien,” and concluding with “Bloom,” this period shows a move away from common practice rock chord progressions to modal and chromatic modal harmonies. “Subterranean” tiptoes into Miles Davis’s jazz modal harmony by pedaling, reducing the strength of the traditional chord progression. As Radiohead’s career progresses from 1996, modal compositions occur more frequently. By the time of their album *The King of Limbs* (2011) their style is often chromatic modal.

With harmonic changes, modal characteristic textures and performance practices are carried over into Radiohead’s music in drum figures, spacious phrasing, instrumentation, graduated linear harmonic development, and tritonic groupings.

## CONCLUSION

Radiohead recalls many forms of jazz, not as a reproach to rock, but as a familiar lost relative, still able to communicate through dark back channels. Colin Greenwood referred to their techniques quoting Leonard Bernstein's phrase of composition through "ambiguity and deletion."<sup>145</sup> Radiohead deletes the jazz structures they modeled, challenging their listeners. Their use of Mingus and Armstrong fly from one genre to another, described by singer-songwriter Dave Mathews:

There's a point on the album *Kid A* where I start to feel claustrophobic, stuck in a barbed-wire jungle-and then I suddenly fall out and I'm sitting by a pool with birds singing...My reaction to Radiohead isn't as simple as jealousy. Jealousy just burns; Radiohead infuriates me...Radiohead makes me feel like I'm a Salieri to their Mozart...And every time, they raise their finger to the press and the critics and say, "Nothing we do is for you!"<sup>146</sup>

Radiohead also rejects commodity art in an iPod industry that was increasingly focused on 99-cent singles instead of albums. They used jazz forms to erode the limitations of rock while still fulfilling the expectations of their rock fan base. When audiences rebuild a listening pattern, in real time, reaching for Radiohead's jazz references and structures, Radiohead seems a few acceptable steps ahead of the crowd, while their "skittish rhythms and textures continue to vex the nonbelievers."<sup>147</sup>

The spread of information through the Internet has helped pulverize musical genres, as musicians have easily collaged fragments from multiple older styles. One hundred years ago, Stravinsky, Milhaud, Debussy, and others were exposed to isolated genres at the World Expositions and experimented with one ethnic flavor at a time. Today, the new viral nature of

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<sup>145</sup> Gerald Marzoarti, "The Post-Rock Band," *The New York Times Magazine*, October 1, 2000, accessed April 11, 2016, <http://partners.nytimes.com/library/magazine/home/20001001mag-radiohead.html>.

<sup>146</sup> Dave Mathews, "100 Greatest Artists," *Rolling Stone*, 2013, accessed April 11, 2016, <http://www.rollingstone.com/music/lists/100-greatest-artists-of-all-time-19691231/radiohead-20110420>.

<sup>147</sup> Richards, 2011, C-1.

culture combined with the accelerated tempo of digital distribution is enabling mutation at a higher rate and fragment combinations from distant musical sources. Compared to larger cultural formations like genre or schools of thought, musicians like Radiohead change quickly and independently inside a community of musicians with enough social feedback, industry knowledge, and infrastructure to substitute for corporate regulations and growth expectations through “genre.” Using jazz, Radiohead escaped genre flaws as described by Leonard Meyer in 1956:

If the expressive value of a relationship becomes weakened through standardization, several alternatives present themselves: (1) The degree of deviation can at times be increased. (2) New deviant devices can be introduced (3) New deviants can be used to replace those which are becoming normalized. (4) Old relationships can be revitalized.<sup>148</sup>

Why is the jazz community preoccupied with Radiohead? As I have shown in this dissertation, I think the fascination stems from the group’s subconscious awareness of jazz. Yorke never sings blues, but his timbre recalls Billy Holiday’s fluctuations and Miles Davis’s directness. The band never plays jazz, but their progressions are often modal plateau. *OK Computer* does not sound like a fusion album, but it does use dense layers like *Bitches Brew*. How many jazz musicians knew that Radiohead was using jazz before Mehldau recorded Radiohead? Chris Potter explained his interest in Radiohead in 2004:

There is always some kind of wrinkle in it that takes it out of the ordinary pop song... There’s a lot of serious thought that goes into it: they are the kind of tunes that can be taken away from their original context and have something to offer, which is pretty unusual.<sup>149</sup>

Jonny Greenwood described their process to jazz journalist George Varga:

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<sup>148</sup> Meyer, 1956, 68-69.

<sup>149</sup> Hendrickson, 2004, <http://jazztimes.com/articles/19612-radiohead-the-new-standard-bearers>.

We bring our favorite jazz albums, and say: We want to do this. And we enjoy the sound of our failing! That's what we do, and that's what bands have always done, since the late '50s – a bunch of guys in England listening to American blues records and copying them. In our case, it's jazz.<sup>150</sup>

As Goethe said in 1827, “If you see a great master, you will always find that he used what was good in his predecessors, and that it was this which made him great.”<sup>151</sup> The bass lines of Charles Mingus are not copied; they are modeled and repurposed. Alice Coltrane's journey is not retraced, but it is a light for new spiritual questions. Radiohead modeled lyrics, harmonic progressions, textures, melodies, and developmental procedures. In the process of emulation, their musical values, fan base, and spirituality grew as they became a new ensemble. In the end, they became a new version of their younger ambitions. By 2011, Radiohead's use of jazz is more of a process than a plan. Gradually leaving structures behind, their jazz influences are still vaguely audible in their music, like worn motifs. Their jazz influences that were a jagged collage have now settled into their texture. In the *Washington Post*, Chris Richards's recent 2011 review points to weathered influences below the surface of Radiohead's textures, where “electronic sounds float into the picture, almost intravenously. Horns, harps, bells and bleeps fade in and out on some distant horizon.”<sup>152</sup> To be specific about Chris Richards's aforementioned itemized list, it is Alice Coltrane's harp, Mingus's horns, Armstrong's utopian bells, and Davis's floating electric melodies that fade in and out in Radiohead's rear view jazz mirror.

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<sup>150</sup> Varga, 2001, 27.

<sup>151</sup> Goethe quoted in James Sydney Slotkin, *Readings in Early Anthropology* (London: Routledge, 1965), 294.

<sup>152</sup> Richards, 2011, C-1.

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## APPENDIX A: VISUAL REFERENCES TO JAZZ STRUCTURALISM

### **Jazz Structuralism in the Visual Artwork of Radiohead**

Several structural parallels in Stanley Donwood's artwork reinforce the conclusions of this dissertation: Radiohead's jazz represents spiritual transcendence, authenticity, and protest to society's cold digital desert and failing morals. At the time of *OK Computer*, Yorke spoke about how important the artwork is to the music: "If I'm shown some kind of visual representation of the music, only then do I feel confident. Up until that point, I'm a bit of a whirlwind."<sup>153</sup> Throughout their albums, Radiohead has kept Stanley Donwood as an artist in residence for all of the visual and video artwork. Donwood paints and creates in their recording studio throughout the creative process, and is often mentioned as a member of the band, along with their producer Nigel Goodrich. *The Kid A Blips Collection* ([link](#)) created by Donwood, is most representative of their intentions with jazz.<sup>154</sup>

Referring to the artwork of *Kid A*, Stanley Donwood refers to ancient Egyptian codes shared by Alice Coltrane: "The overarching idea of the mountains was that they were these landscapes of power, the idea of tower blocks and pyramids. It was about some sort of cataclysmic power existing in landscape."<sup>155</sup> Donwood and Yorke's visual art clearly reflect the band's structural jazz practice: "Layers and layers of books and whatever we had hanging around, pasted on and on, and then rubbed away. But in rubbing it away you don't quite get rid of it."<sup>156</sup>

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<sup>153</sup> Lucy Jones, "Stanley Donwood on the stories behind his Radiohead Album Covers," *NME*, September 27, 2013, accessed April 11, 2016, <http://www.nme.com/blogs/nme-blogs/stanley-donwood-on-the-stories-behind-his-radiohead-album-covers>.

<sup>154</sup> "The Kid A Blips: Complete Collection," *YouTube*, accessed April 11, 2016, <https://www.youtube.com/watch?v=-iNjNr2HKSA>.

<sup>155</sup> *Ibid.*

<sup>156</sup> Greenwood, 1997.

In the next example, *The Kid A Blips*, Donwood et al. map Radiohead's affection for jazz. Each video designed by Donwood featured short cartoons and music samples from the album. The blips are all unique, but the role of jazz reinforces this dissertation ([link](#)). Below are my interpretations of significant related blips from the collection in the link above that confirm Radiohead's jazz in collage as a reference to authenticity, modal tonalities, craftsmanship, spirituality, and a foil to electronics.

### **Kid A Blips Timeline**

**0:14** An out-of-date space invaders game with minimalist electronic music is shattered by free jazz, suggesting themes of jazz authenticity over automated music.

**0:21** The planing modal "Everything in its Right Place" is depicted as a constellation of dots or stars which gradually come together to form an individual face (Yorke) suggesting references to modal music and tonic centrality.

**0:30-0:50** The soccer players of a fuse ball game move mechanically to an electronic beat. When they turn to the frustrated Radiohead Bear logo, the music switches to acoustic free jazz from "National Anthem," suggesting jazz as a foil to their own electronic textures.

**1:20** An artificial papier-mâché Radiohead Bear is attacked by a living duck. The duck's attack is timed to the baritone sax riff from "National Anthem," suggesting that real defeats artificial.

**1:40** The Rhodes keyboard with delay pedal from *Bitches Brew* accompanies the lyric, "you're living in a fantasy," while cartoon bear angles fly above a bear on the ground, conjuring associations of transcendence through jazz.

**2:10** Alice Coltrane samples are heard from “Motion Picture Soundtrack,” while an aerial view above a landscape is depicted, referencing the John and Alice Coltrane’s universal religion above the fray of divided religion.

**3:45** (to disrupt the previous example) The Radiohead Bear on an iceberg descends into the ocean, accompanied by Alice Coltrane’s harp.

**5:05** The Radiohead Bear morphs into a blue swatch of blue, white and black to the modal music of “Everything in its Right Place” in a transition that reduces differences in color, similar to modal planing in the music which transitions by degree rather than key.

**7:50** Black demons bounce across the screen to free jazz drawn from Charles Mingus and The Art Ensemble of Chicago, with many possible minstrel references depicting African-American culture as dangerous.

**9:22** One red square migrates across a mountain range, followed by a migration of many squares in a collective mass, suggesting spiritual migration over a modal tonality.

**10:50** The grim reaper leaves in a boat to another world, accompanied by Alice Coltrane’s harp.

**14:01** A stick figure leaves the murder scene of another stick figure, accompanied by nostalgic Armstrong arpeggios heard in the song *Kid A*. This mechanical nursery rhyme figure is descendent from Armstrong’s perilous utopia in “No Surprises.”

## APPENDIX B: INTERVIEWS

### Liam Kirkman Interview

Liam Kirkman played trombone in the recording of “National Anthem” in 2000. In an interview with Liam Kirkman, I asked him about the chromatic paradox, and his solo. In addition to his work for Radiohead, he also plays for BBC, Duran Duran, and is the President of the British Trombone Society.

**Peter Carney:** Do you remember any references to Mingus, Art Ensemble of Chicago, or Bitches Brew. Radiohead has mentioned in interviews them as being influential for “National Anthem?” Any other influences that were mentioned?

**Liam Kirkman:** I remember when taking the call that Mingus was definitely mentioned and certainly when we did gigs Miles came up in conversation.

**Carney:** The first time the horns enter, your group seems to be playing outside to conflict with the D pedal, leaning towards Eb over D. In interviews, Thom Yorke described it as wanting the sound of a traffic jam. Do you remember anything about the first entrance of the horns at 1:15, any instructions you remember?

**Kirkman:** I really can't remember anything about this bit. Sorry (production liberties?)

**Carney:** Did you have any written music or chord progressions in the session?

**Kirkman:** I think the only written notes were the ondes martenot line (A,F#,Bb etc) and Thom already had the baritone/bass tbn figure in mind. There were no instructions regarding how we addressed the harmony.

**Carney:** As the song develops, the horns seem to be playing close to the harmonic outline of D7 to G minor, with added dissonance for color. Your solo seems to be trying to climb out of the texture, or get above the chaos? Coltrane comes to mind. Any thoughts on what you were going for?

**Kirkman:** We did a few takes and I remember Thom really liking it when I went fairly "out". Listening to it now I think this is pretty "in". I'd be interested to hear some of the other takes! I've long been a fan of Michael Brecker so I guess (I wish!!!) that's the Coltrane you refer to

**Carney:** Your solo seems to have some D minor pentatonic, and blues, and a couple points where you emphasize a descending chromatic figure G F# F. That chromatic figure ties in with the dissonant conflict in the chord progression: G minor over the F# to D pedal in the bass. Any memories of scales, or what you were hearing, or trying to hear the changes?

**Kirkman:** The solo that made the album is exactly as you describe. I think my approach during recording (that take!) was no doubt trying to emphasize the presence of both major and minor 3rds over the D pedal. I didn't think of any chords as such and would mentally justify any rogue notes in relation to D (#5,b9 implying dominant etc.). I can't speak for the other players but personally saw the context as mostly D7#9

**Carney:** Overall I hear the harmonic structure as loosely dissonant but not random. Would you agree or disagree?

**Kirkman:** I agree. I think the Musicians taste and sensibilities will have dictated exactly how "loosely dissonant" to go.

**Carney:** Do you remember anything about how the bari sax ostinato was created?

**Kirkman:** Thom York I remember had a clear idea of this and either dictated it to the players or maybe even notated it.

**Carney:** Do you remember how the fermatas at the end were constructed? They are pretty close to a dense D7 and G minor.

**Kirkman:** I don't remember any specific harmonies or dissonances being discussed. I think we played everything "live" but it's possible these were recorded separately

**Carney:** In interviews, Radiohead members says you did many takes. Were the takes similar? Did you solo on all of the takes?

**Kirkman:** We did do a few takes. I think the session was probably all day with a break for lunch. My own recollection of the process was Thom and Jonny organizing the horns into various roles. Bass tbn/Baritone ostinato. Saxes and trumpet covering the ondes martenot etc. My own instruction was pleasantly "just improvise"

**Carney:** How did this session compare to other rock or pop recording sessions?

**Kirkman:** I'm sure you can imagine from listening! This wasn't the usual cliché precision pop brass figures heard countless times before. The atmosphere in the studio was much more experimental with not too many preconceptions. Radiohead were great to work with and displayed no egos at all. We were all asked to stay behind for a meal and when on the road with the band regularly engaged in talks about jazz.

**Carney:** Do you remember anything about Thom Yorke and Jonny Greenwood's abstract conducting? Miles Davis did the same thing in the studio for Bitches Brew, and I'm wondering if there's any connection here?

**Kirkman:** Johnny was quite reserved I seem to remember, giving the odd instruction where necessary. Thom in contrast was really animated. Very much how you see him perform.

**Carney:** Is there anything I haven't asked you that comes to mind about the session that you think is important?

**Kirkman:** One thing that is curious is the lineup. 5 sax, 2 tbn, 1 tpt (flug)... Is this something Mingus used??

**Carney:** "It's the same instrumentation as Mingus's "Wednesday Night Prayer Meeting" plus Andy Bush on trumpet, who booked the session.

## James Hasting Interview

James Hasting played clarinet in the recording of “Life in a Glasshouse” in 2001.

**Pete Carney:** Your saxophone sound on other recordings reminds me of Coleman Hawkins and Ben Webster. Any clarinet players that you grew up listening to? Any style you were going for on “Glasshouse?”

**James Hasting:** I try to listen to everything there is to listen to but clarinetists I have paid particular attention to include Albert Nicholas, Buster Bailey, Barney Bigard, Jimmy Hamilton, Artie Shaw and Benny Goodman (of course!) Tony Scott, Peanuts Hucko and our own Tony Coe whose technique and originality of ideas I have never heard surpassed by anybody - anywhere. There are many more but these are the ones who spring immediately to mind. You are right about Coleman Hawkins and Ben Webster. I have always associated the tenor saxophone with the lovely warm, rich sound those two musicians produced and tried to achieve this myself. I bought my first tenor saxophone about the time the Atomic Mr. Basie album came out. It was one of the original Selmer MK VIs and I really thought I was going to sound like Eddie "Lockjaw" Davis. Imagine how I felt when the first sound I produced was like a comb and paper.

**Carney:** How did the session go overall? Any specific memories?

**Hasting:** The session went well and the only memory I have is when, after quite a long time spent getting the sound together, somebody suggested we all go and have something to eat and drink, then come back and record it all. Humphrey Lyttleton told them if they didn't do it then he would have no lip left to do it later. They were apparently not used to working with brass players.

**Carney:** How did the idea for the New Orleans procession come about? It kind of reminds me of Louis Armstrong's “St. James Infirmary” or “Minnie the Moocher.” Were any songs or influences mentioned?

**Hasting:** The idea of the New Orleans procession was Humph's. He suggested it to them when they asked him to do the recording and they all thought it was a great idea.

**Carney:** On the second half of the song, you play some descending arpeggios that change through the chord progression starting with A minor and going to C minor (concert) Did they give you any written music or chord progressions to follow, or how did you come to record those arpeggios?

**Hasting:** I don't remember any music or chord progressions on the session so all of that would have been ad-libbed although I remember practicing something for a subsequent TV show we did which would suggest there was some music written down. I'm sorry I'm a bit vague on that score.

**Carney:** In general, you and Pete Strange seem to improvise in the second half of the phrases to stay out of the way with the Thom Yorke's vocals? Was this rehearsed or just intuitive?

**Hasting:** A bit of both, I think.

**Carney:** Humphrey Lyttleton's articulations remind me of King Oliver on this track. Any thoughts?

**Hasting:** Could be Humph felt the occasion called for some King Oliver style licks. Humph once wrote a book which he called *I Play As I Please* and this just about sums him up, I think.

**Carney:** It seems like the song is divided into two parts. Like a service followed by a procession? Do you remember any structuring of the overall sound?

**Hasting:** I think this structuring, well observed by you, was Humph's idea as well.

**Carney:** Something that's interesting to me is that the song feels like a New Orleans procession, but the horns are generally playing in A natural minor which gives it a dramatic and heavy sound. It's like a blues, but without the usual blues licks. The drums are definitely a blues march. It kind of reminds me of a dramatic Sidney Bechet arrangement. Any thoughts?

**Hasting:** I think, on reflection, the parts were written by one of the Radiohead musicians as I remember struggling with some of it and this could well have included that A natural minor you mentioned. Sidney Bechet? Could be no more than coincidence.

**Carney:** How did this compare to other sessions you've done? Was it like any artists you've worked with before?

**Hasting:** This was not unlike many sessions I did in the seventies for bands like Caravan, Hatfield and the North, Soft Machine and National Health.

**Carney:** How did the live concert on the BBC go?

**Hasting:** The BBC live concert went well and I think everyone was pleased with it.

**Carney:** How are the gigs going? Keeping busy?

**Hasting:** Humph's band did a gig at South Park in Oxford for Radiohead and I did a film session for Johnny Greenwood much later. I can't remember what the film was called, however. I'm still with Humph's band although, understandably, it's not as busy as it was when Humph was alive but we're keeping his music alive for all those people who still want to hear it. I teach at the London College of Music, have my own Quartet and do whatever freelance work I'm offered so I think I'm about as busy as I would like to be.



## APPENDIX C: MUSIC SCORES

# BLOOM

RADIOHEAD

1

VOCAL

STRINGS  
VOCALS 2

PIANO

SYNTH

BASS

DRUM SET 1

DRUM SET 2

Detailed description: This block contains the first three measures of the score. The vocal and string parts are silent. The piano part features a melodic line with eighth notes and rests, spanning across the three measures. The synth, bass, and drum parts are also silent.

4

VOCAL

STRINGS  
VOCALS 2

PNO.

SYNTH/  
FLUGELHORNS

BASS

Dr.

Dr.2

Detailed description: This block contains measures 4 and 5. At measure 4, the time signature changes from 9/8 to 4/4. The piano part continues with a melodic line. In measure 5, the piano part has a triplet of eighth notes. The synth/flugelhorn part has a single note in measure 5. The vocal, string, bass, and drum parts are silent.

2

6

VOCAL

STRINGS VOCALS 2

PNO.

SYNTH/ FLUGELHORNS

BASS

Dr.

Dr.2

VOCAL

STRINGS VOCALS 2

PNO.

SYNTH/ FLUGELHORNS

BASS

Dr.

Dr.2

5 BPM SLOWER THAN TEMPO

3

13

VOCAL

OP EN YOUR MOUTH WIDE  
AND WHILE THE OCEAN BLOOMS  
(3RD X ONLY) I'M MOV - ING OUT OF

STRINGS  
VOCALS 2

PNO.

SYNTH/  
FLUGELHORNS

BASS

Dr.

Dr.2

16

VOCAL

ORBIT

STRINGS  
VOCALS 2

PNO.

SYNTH/  
FLUGELHORNS

BASS

Dr.

Dr.2

D-7

TACET 3RD X

5 BPM SLOWER

G7sus

G7sus

20 D-7

VOCAL

A UN I - VERSE IN  
 ITS WHAT KEEPS ME A -  
 TURN - ING - IN SOMER -

STRINGS  
 VOCALS 2

PNO.

SYNTH/  
 FLUGELHORNS

BASS

Dr.

Dr.2

8

5 BPM SLOWER

3

24 G7SUS

VOCAL

SIDE -  
 LI - VE -  
 SAULTS -

PNO.

SYNTH/  
 FLUGELHORNS


BASS

Dr.

Dr.2

G7SUS

28

AFTR REPEATS TO  3x

5

VOCAL

STRINGS  
VOCALS 2

PNO.

SYNTH/  
FLUGELHORNS

BASS

Dr.

Dr.2

32

VOCAL

STRINGS

PNO.

SYNTH/  
FLUGELHORNS

BASS

Dr.

Dr.2

36

VOCAL

STRINGS

PNO.

SYNTH/  
FLUGELHORNS

BASS

Dr.

Dr.2

42

VOCAL

STRINGS

PNO.

SYNTH/  
FLUGELHORNS

BASS

Dr.

Dr.2

G7sus

16

VOCAL

STRINGS

PNO.

SYNTH/  
FLUGELHORNS

BASS

Dr.

Dr.2

52

VOCAL

STRINGS

PNO.

SYNTH/  
FLUGELHORNS

BASS

Dr.

Dr.2

D.S. AL CODA



# BITCHES BREW

MILES DAVIS

TRUMPET IN B $\flat$

ELECTRIC PIANO

BASS

Ab-(Δ7)/C

5

TPT.1

E. PIANO

BASS.

F $\Delta$  B $\flat$  $\Delta$  E $\flat$  $\Delta$  A $\flat$  $\Delta$  D $\flat$  $\Delta$  G $\flat$  $\Delta$

9

♩ = 88

WITH DELAY EFFECT

TPT.1

E. PIANO

BASS.

WITH DELAY EFFECT

13  $\text{♩} = 88$

TPT.1

E. PIANO

BASS.

17

TPT.1

E. PIANO

BASS.

$A\flat-(\Delta 7)/C$

22 FUNK SOLO CHROMATIC

TPT.1

E. PIANO

BASS.

# LIFE IN A GLASSHOUSE

RADIOHEAD

1

ONCE A-GAIN I'M IN TROUBLE WITH MY

A-Δ7 A-7 A-Δ7 A-7

Detailed description: This system contains the first four measures of the song. The vocal line starts with a whole rest in measure 1, followed by quarter notes in measure 2, and eighth notes in measures 3 and 4. The guitar accompaniment consists of rhythmic patterns of eighth notes and quarter notes.

5

ON - LY FRIEND SHE IS PA-PER-ING THE WIN-DOW PANES

A-Δ7 A-7 C-6

Detailed description: This system contains measures 5 through 7. The vocal line continues with quarter notes in measure 5, eighth notes in measure 6, and quarter notes in measure 7. The guitar accompaniment features a consistent eighth-note pattern.

8

SHE IS PUT-TING ON A SMILE LIV-ING IN A GLASS - HOUSE

G- F#07

Detailed description: This system contains measures 8 through 11. The vocal line has quarter notes in measure 8, eighth notes in measure 9, and quarter notes in measure 10, ending with a whole rest in measure 11. The guitar accompaniment continues with eighth-note patterns.

12

ONCE A GAIN - - PACKED LIKE FOR-ZEN FOOD AND BAT - TRY HEN -

CLARINET 2NDX ONLY

A-Δ7 A-7 A-Δ7

5 5

Detailed description: This system contains measures 12 through 15. The vocal line has quarter notes in measure 12, quarter notes in measure 13, quarter notes in measure 14, and quarter notes in measure 15. The guitar accompaniment includes a section for 'CLARINET 2NDX ONLY' in measures 13 and 14, marked with a '5' below the staff. The guitar accompaniment also features eighth-note patterns.

15

- THINK OF ALL THE THE STARV - ING MIL - LIONS \_\_\_\_\_ DON'T TALK POL - I - TICS

18

AND DON'T THROW STONES YOUR RO - YAL HIGH NESS ES WELL OF COURSE I'D LIKE - TO SIT

22

A - ROUND AND CHAT WELL OF COURSE I'D LIKE TO STAY AND CHEW THE FAT

25

WELL OF COURSE I'D LIKE TO SIT A ROUND AND CHAT BUT

28

SOME - ONE'S LIS - TENING IN \_\_\_\_\_ ONCE A GAIN \_\_\_\_\_

32 |2.

A-ROUND AND CHAT\_ ON-LY ON-LY\_ ON-LY\_ ON-LY\_

F $\Delta$  C $\Delta$  A- E7 F $\Delta$  C $\Delta$

36

ON-LY\_ ON - LY\_ ON - LY\_ ON - LY\_ ON

E7 A- E7 F $\Delta$  C $\Delta$  G7

40

LY\_ ON - LY\_

A- E7 F $\Delta$  C $\Delta$  G7

43

BUT SOME-ONE'S LIST-NING IN

A- E7 F $\Delta$  A- A- $\Delta$ 7

# NO SURPRISES

ELECTRIC GUITAR

XYLOPHONE  
F<sup>SUS2</sup>

B<sup>b</sup>-6 F<sup>SUS2</sup>

6

B<sup>b</sup>-6 VERSE  
F<sup>SUS2</sup> B<sup>b</sup>Δ<sup>7</sup>/D

A HEART THAT'S FULL UP LIKE - A LAND\_\_ FILL A JOB THAT SLOW-LY\_\_ KILLS

11

G- CΔ ELECTRIC GUITAR  
FΔ B<sup>b</sup>-6 F<sup>SUS2</sup>

— YOU BROU SES\_ THAT\_ WON'T HEAL\_ I'LL TAKE THE  
THEY DON'T SPEAK FOR\_ US

16

B<sup>b</sup>Δ<sup>7</sup>/D G- G-7

QUI-ET\_\_ LIFE,\_ A HAND\_\_ SHAKE SOME CAR-BON MON OX- IDE,\_ WITH NO AL- ARMS - AND NO

20

C7 G- G-7 C7 FΔ B<sup>b</sup>-6 FΔ

- SUR-PRIS- ES,\_ NO AL- ARMS - AND NO - SUR- PRIS - ES SI - LENT SI -

26

B<sup>b</sup>-6 FΔ FΔ/E B<sup>b</sup>Δ/D

LENCE THIS IS MY FI-NAL FIT MY FI - NAL BEL-LY ACHE, WITH

31

G- G-7 C7 G-7 C7

NO AL-ARMS AND NO\_\_ SUR- PRIS - ES NO AL- ARMS - AND NO - SUR- PRIS - ES

2 35 G<sup>-</sup> G<sup>-7</sup> C<sup>Δ</sup> C<sup>SUS</sup> ELECTRIC GUITAR B<sup>b-6</sup>

NO AL-ARMS AND NO SUR- PRIS - ES PLEASE

INTERLUDE

39 1. C<sup>Δ</sup> B<sup>b-6</sup> C<sup>Δ</sup>

42 B<sup>b-6</sup> G<sup>-</sup> B<sup>b-6</sup> 2. F<sup>Δ</sup>

# OLE

JOHN COLTRANE

PIANO BPHRYGIAN

Musical notation for the first system, featuring piano and two basses. The piano part is in the upper staff, and the two basses are in the lower staff. The key signature is one sharp (F#). The time signature is 6/4. The system includes a repeat sign and a 4x multiplier. The piano part has a melodic line with some rests. The basses play a rhythmic pattern of eighth notes.

Musical notation for the second system, featuring piano and drum set. The piano part is in the upper staff, and the drum set is in the lower staff. The key signature is one sharp (F#). The time signature is 6/4. The system includes a repeat sign and a 4x multiplier. The piano part has a melodic line with some rests. The drum set plays a rhythmic pattern of eighth notes. The system ends with a double bar line and the text "TO PNO."

Musical notation for the third system, featuring soprano sax melody. The soprano sax melody is in the upper staff, and the piano accompaniment is in the lower staff. The key signature is one sharp (F#). The time signature is 6/4. The system includes a repeat sign and a 4x multiplier. The soprano sax melody has a melodic line with some rests. The piano accompaniment has a rhythmic pattern of eighth notes. The system ends with a double bar line.

Musical notation for the fourth system, featuring soprano sax melody. The soprano sax melody is in the upper staff, and the piano accompaniment is in the lower staff. The key signature is one sharp (F#). The time signature is 6/4. The system includes a repeat sign and a 4x multiplier. The soprano sax melody has a melodic line with some rests. The piano accompaniment has a rhythmic pattern of eighth notes. The system ends with a double bar line.

Musical notation for the fifth system, featuring piano and vamp. The piano part is in the upper staff, and the vamp is in the lower staff. The key signature is one sharp (F#). The time signature is 6/4. The system includes a repeat sign and a 4x multiplier. The piano part has a melodic line with some rests. The vamp has a rhythmic pattern of eighth notes. The system ends with a double bar line.



# PYRAMID SONG

RADIOHEAD

VOCALS AND STRINGS  
2ND X ONLY

Musical notation for measures 1-4. The top staff is in treble clef with a key signature of three sharps (F#, C#, G#). It features a melodic line with a long slur over the first four measures. The bottom staff is in bass clef with the same key signature, showing a bass line with chords. Chord symbols are placed below the bass staff: F#Δ, GΔ, AΔ, GΔ.

5

Musical notation for measures 5-8. The top staff continues the melodic line. The bottom staff continues the bass line with chords: F#Δ, GΔ, AΔ, GΔ. A fermata is placed over the end of measure 8 in both staves.

9

Musical notation for measures 9-12. The top staff contains the vocal line with lyrics. The bottom staff contains the bass line with chords. Chord symbols are: F#Δ, GΔ, AΔ, GΔ, F#Δ.

JUMPED IN THE RIV - ER AND WHAT DID I SEE -  
ALL MY LOV - ERS WERE THERE WITH ME -

13

Musical notation for measures 13-16. The top staff contains the vocal line with lyrics. The bottom staff contains the bass line with chords: F#Δ, EΔ, GΔ.

BLACK EYED AN - GLES SWAM WITH ME - A  
ALL MY PAST AND FU - TURES - WE

17

MOON FULL OF STARS AND AS - TRAL CARS\_ AN  
WENT TO HEAVEN IN- A LITTLE ROW BOAT\_ THERE

F#Δ GΔ AΔ GΔ F#Δ

21

D.C. 2ND X

ALL THE FIG- URES\_ I USED TO SEE -  
WAS NOTHING TO FEAR\_ NO - THING TO DOUBT

F#- EΔ GΔ

SPANISH KEY

MILES DAVIS

VAMP  
2X ONLY

CUE

E7#9

4

6 VAMP

D7#9 OR DPHRYGIAN

E7#9 OR EPHRYGIAN

4

10 CUE

VAMP

G13

4

13

4

# SUBTERRANEAN HOMESICK ALIEN

INTRO  $D^-$   $A\flat\Delta$   $D\Delta/A$   $D\flat\Delta/A\flat$

10  $G^7$   $G^6$   $C^-6/G$  DELAY EFFECT TIMBRE ENVELOPE 1.

16  $G\Delta$  | 2.  $G\Delta$  TIMBRE ENVELOPE VERSE VOCAL

21  $G^7$   $G^6$   $G^+$

BREATH OF THE MORN - ING \_\_\_\_\_ I KEEP FOR - GET - ING THE SMELL OF THE WARM -  
 WISH THAT THEY'D SWOOP DOWN IN A COUN - TRY LANE LATE AT NIGHT

26  $G\Delta$   $G^7$   $G^6$

SUM - MER AIR \_\_\_\_\_ I LIVE IN A TOWN \_\_\_\_\_ WHERE YOU CAN'T SMELL A THING  
 WHEN I'M - DRIVING TAKE ME ON BOARD \_\_\_\_\_ THEIR BEAUTI FUL SHIP \_\_\_\_\_

32  $C^-/G$   $C^-6/G$   $G^7SUS$   $G^7$  RHODES DELAY EFFECT

— YOU WATCH YOUR FEET AS FOR CRACKS IN THE PAVE \_\_\_\_\_ MENT  
 SHOW ME THE WORLD I'D LOVE TO SEE \_\_\_\_\_ IT

39  $G^6$   $C^-6/G$   $G\Delta$  TIMBRE ENVELOPE

AND  
 I'D

2

45 *G7* *G6* *C-/G*

UP ALL MY BOVE\_\_\_\_ A LIENS HOV ER MAK ING HOME MOV IES  
TELL A\_\_\_\_ FRIENDS BUTTHEY'D NEVER\_\_\_\_ BE-LIEVEME THEY'D\_ THINK THAT I'DFINALLY

50 *GΔ* *G6*

FOR THE FOLKS BACK HOME\_\_\_\_ OF ALL THESE WEIRD CREA TURES WHO LOCK  
LOST IT LOST IT COMPLETELY I'D SHOW THEM THE STARS AND THE MEANING

55 *C-/G* *TO* *GΔ* *GΔ* *G7*

\_\_\_\_ UP THEIR SPI-RITS DRILL HOLES IN THEM- SELVES AND LIVE FOR THEIR SEC\_\_\_\_ RETS  
OF LIFE\_\_\_\_

62 *GUITAR* *G6* *C-/G* *GΔ* *CHORUS* *GΔ/F*

THEY'RE ALL

70 *CADD2* *G7SUS*

UP TIGHT UP TIGHT

77 *GΔ/F* *CADD2* *RHODES* *G7*

UP\_\_\_\_ TIGHT

82 *G6* *C-6/G* *G7* *2ND X D.S AL CODA*

89  $C/G$   $G^7$   $G^6$  3

SHUT ME A-WAY BUT I'D BE ALL RIGHT

97  $C/G$   $G^{ADD2}$   $G^{\Delta}/F$   $C^{ADD2}$

ALL RIGHT AND I'M ALL UP TIGHT

105  $G^7SUS$  1.2.3. 4.

UP TIGHT

$G^{\Delta}/F$   $C^{ADD2}$   $G^7$

UP TIGHT

$G^6$   $C/G$   $G^{\Delta}$   $D^{\Delta}/A$

D- OUTRO  $A^{\Delta}$

UP TIGHT

RHODES  
KEYBOARD

The musical score is written on four staves. The first staff is in treble clef with a key signature of one sharp (F#) and a 3/4 time signature. It contains a melodic line with notes: F#4, G4, A4, B4, C5, B4, A4, G4, F#4, E4, D4. Above this staff are handwritten annotations: 'G7' above the first measure, '(ZAWINUL REFERENCE)' above the second measure, 'G6' above the third measure, and 'C-6/G' above the fourth measure. The second staff is also in treble clef with a key signature of one sharp. It contains a bass line with notes: F#4, G4, A4, B4, C5, B4, A4, G4, F#4, E4, D4. Above this staff are handwritten annotations: '1.' above the first measure, 'GΔ' above the second measure, '2.' above the third measure, and 'GΔ' above the fourth measure. The third and fourth staves are empty, each with a treble clef and a key signature of one sharp.

# WHAT A WONDERFUL WORLD

GEORGE WEISS AND BOB THIELE

1 F $\Delta$  A- B $\flat$  $\Delta$  A- G-7 F $\Delta$

I SEE TREES OF GREEN RED ROSES TO I SEE THEM BLOOM

5 A7 D-7 D $\flat$  $\Delta$ 7 G-7 C7 F $\Delta$  F+ B $\flat$  $\Delta$ 7 C7

FOR ME AND YOU AND I THINK TO MY SELF WHAT A WONDERFUL WORLD THE

10 C7 F $\Delta$  C7

COLORS OF THE RAINBOW, SO PRETTY IN THE SKY ARE ALSO ON THE FACES OF

13 F $\Delta$  D- C $\Delta$  D- C $\Delta$  D- F $\sharp$ 0

PEOPLE GOING BY, I SEE FRIENDS SHAKING HANDS, SAYING HOW DO YOU DO THEY'RE REALLY SAYING

17 G-7 D7 G-7 C7 F $\Delta$  A-7 B $\flat$  $\Delta$  A- G-7 F $\Delta$

I LOVE YOU I HEAR BABIES CRY I WATCH THEM GROW THEY'LL LEARN MUCH MORE THAN

21 A7 D-7 D $\flat$  $\Delta$ 7 G-7 C7

I'LL EVER KNOW AND I THINK TO MY SELF WHAT A WONDERFUL

24 F $\Delta$  A $\flat$ 7 D7 G-7 C7 F $\Delta$

WORLD YES I THINK TO MYSELF WHAT A WONDERFUL WORLD